

Access DB# 91548**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: Callie Shoshio Examiner #: 95636 Date: 6/26/03  
Art Unit: 1714 Phone Number: 305-0208 Serial Number: 091409338  
Mail Box and Bldg/Room Location: CP3 5221 Results Format Preferred (circle): PAPER DISK E-MAIL  
CP3 4001 (mailbox)

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Jet Printing Ink and Ink-Jet Recording Method  
Inventors (please provide full names): Makoto Yamada, Toshiaki Fujiwara

Earliest Priority Filing Date: 9/30/98

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please find ink comprising azomethine  
dye of formula III or IV or azo dye of  
formula V or VI

- Thank You -

**STAFF USE ONLY**Searcher: EN

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: \_\_\_\_\_

Date Completed: 6-26-03Searcher Prep & Review Time: 10

Clerical Prep Time: \_\_\_\_\_

Online Time: 125**Type of Search**

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) ✓Bibliographic ✓

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

**Vendors and cost where applicable**STN \$ 306.59Dialog (5) (abstracts)Questel/Orbit (and)

Dr. Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

=> file reg

FILE 'REGISTRY' ENTERED AT 16:52:24 ON 26 JUN 2003  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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=> display history full l1-

L1 FILE 'LREGISTRY' ENTERED AT 15:38:30 ON 26 JUN 2003  
STR

L2 FILE 'REGISTRY' ENTERED AT 15:47:15 ON 26 JUN 2003  
50 SEA SSS SAM L1  
D QUE STAT

L3 44098 SEA SSS FUL L1  
SAV TEM L3 SHO338/A

L4 FILE 'HCA' ENTERED AT 15:52:48 ON 26 JUN 2003  
14116 SEA L3

L5 15033 SEA INKJET? OR (JET OR JETS OR JETTED OR JETTING#) (2A) (IN  
K? OR PRINT?) OR THINKJET?

L6 FILE 'REGISTRY' ENTERED AT 15:53:02 ON 26 JUN 2003  
E GLYCEROL/CN  
1 SEA GLYCEROL/CN  
E IMIDAZOLYL/CN

L7 1 SEA IMIDAZOLYL/CN  
D SCAN

L8 1 SEA "IMIDAZOLYL, 2,4,5-TRIPHENYL-" /CN  
D SCAN  
D L7 1 FIDE

L9 537595 SEA 16.195/RID

L10 7295 SEA L9 AND PMS/CI

L11 185258 SEA 16.195.22/RID  
D L8 1 FIDE

L12 723 SEA 16.195.15/RID

L13 2382 SEA (L11 OR L12) AND PMS/CI

L14 FILE 'HCA' ENTERED AT 15:59:49 ON 26 JUN 2003  
147747 SEA L6 OR GLYCEROL# OR GLYCERIN#

L15 2245 SEA L13

L16 330 SEA L4 AND L5

L17 60 SEA L16 AND L14

L18 0 SEA L16 AND L15

L19 5650 SEA L10

L20 1 SEA L16 AND L19

L21 0 SEA L17 AND L20

L22 14860 SEA ?IMIDAZOLYL?

L23 2 SEA L16 AND L22

L24 0 SEA L23 AND L14

FILE 'LREGISTRY' ENTERED AT 16:05:02 ON 26 JUN 2003

L25 STR L1

FILE 'REGISTRY' ENTERED AT 16:13:13 ON 26 JUN 2003

L26 45 SEA SUB=L3 SSS SAM L25

L27 937 SEA SUB=L3 SSS FUL L25

SAV L27 SHO338A/A

L28 43161 SEA L3 NOT L27

FILE 'HCA' ENTERED AT 16:16:25 ON 26 JUN 2003

L29 283 SEA L27

L30 13888 SEA L28

L31 59 SEA L29 AND L5

L32 11 SEA L31 AND L14

L33 278 SEA L30 AND L5

L34 51 SEA L33 AND L14

L35 10702 SEA (INKJET? OR (JET OR JETS OR JETTED OR JETTING#) (2A) (I  
NK? OR PRINT?) OR THINKJET?)/TI

L36 40 SEA L34 AND L35

L37 20 SEA L36 AND (1907-1998/PY OR 1907-1998/PRY)

L38 63853 SEA INK?

L39 647 SEA L4 AND L38

L40 10 SEA L39 AND (L15 OR L19 OR L22)

L41 0 SEA L40 AND L14

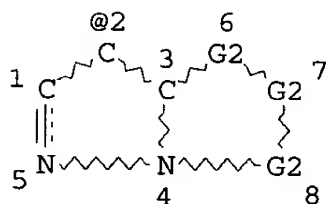
L42 10 SEA L40 OR L20 OR L23

L43 11 SEA L32 NOT L42

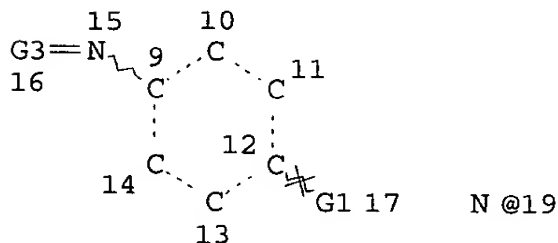
L44 20 SEA L37 NOT (L42 OR L43)

=> d l3 que stat

L1 STR



Hy~N  
23 @24



N @19

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VAR G2=C/N  
 VAR G3=2/24  
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 DEFAULT MLEVEL IS ATOM  
 GGCAT IS UNS AT 23  
 DEFAULT ECLEVEL IS LIMITED

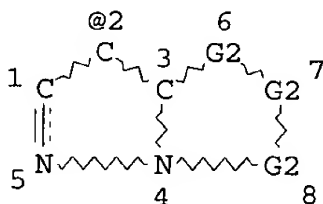
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 NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE  
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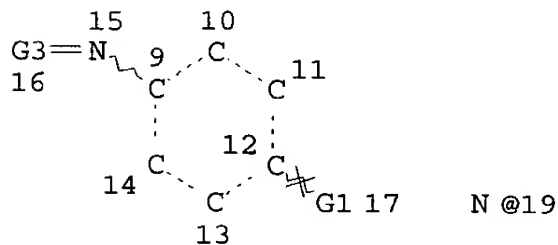
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44098 ANSWERS

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 L1 STR



Hy~N  
 23 @24



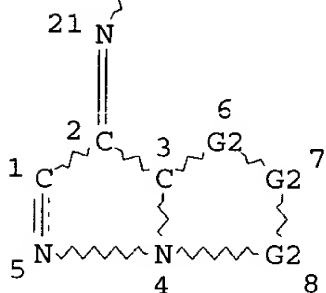
VAR G1=O/19  
 VAR G2=C/N  
 VAR G3=2/24  
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 NSPEC IS RC AT 19  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS UNS AT 23  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED



STEREO ATTRIBUTES: NONE

N @19


$$\text{VAR } G2 = C/N$$

NSPEC IS RC AT 19

DEFAULT ECLEVEL IS LIMITED

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 17

L27 937 SEA FILE=REGISTRY SUB=L3 SSS FUL L25

937 ANSWERS

SEARCH TIME: 00.00.01

FILE 'HCA' ENTERED AT 16:53:10 ON 26 JUN 2003

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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L42 ANSWER 1 OF 10 HCA COPYRIGHT 2003 ACS

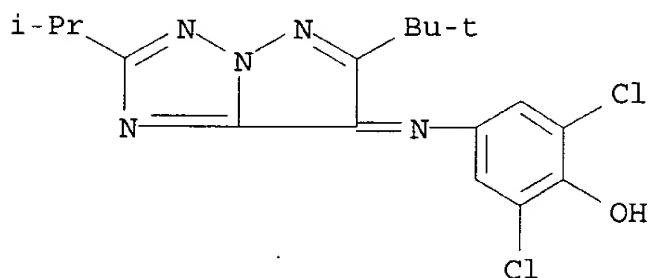
123:22248 Thermal-transfer recording materials with transferred-image stability. Tateishi, Tomoyoshi; Kamio, Takayoshi (Fuji Photo Film Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07061147 A2 19950307 Heisei, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-210662 19930825.

AB The title materials contain thermal-transferable dyes capable of giving H to dye-receiving materials which include N-vinylimidazole deriv. polymers and gelatins.

IT 163921-17-3 163921-18-4 163921-26-4  
(thermal-transferable dyes)

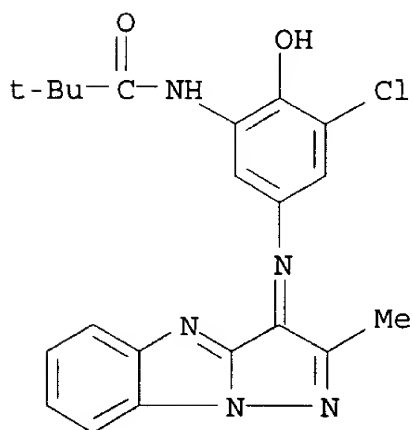
RN 163921-17-3 HCA

CN Phenol, 2,6-dichloro-4-[[6-(1,1-dimethylethyl)-2-(1-methylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]- (9CI) (CA INDEX NAME)



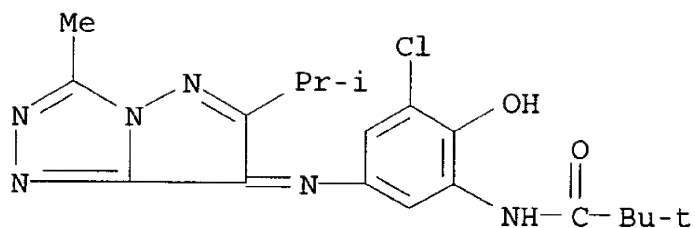
RN 163921-18-4 HCA

CN Propanamide, N-[3-chloro-2-hydroxy-5-[(2-methyl-3H-pyrazolo[1,5-a]benzimidazol-3-ylidene)amino]phenyl]-2,2-dimethyl- (9CI) (CA INDEX NAME)



RN 163921-26-4 HCA

CN Propanamide, N-[3-chloro-2-hydroxy-5-[[3-methyl-6-(1-methylethyl)-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]amino]phenyl]-2,2-dimethyl- (9CI) (CA INDEX NAME)

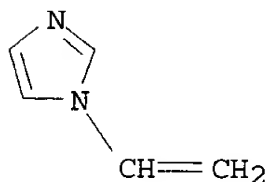


IT 25232-42-2 103437-05-4 159105-83-6  
 163921-06-0 163921-07-1 163921-10-6  
 163921-12-8 163921-14-0 163921-15-1  
 (vinyl polymers of dye-receiving layer)  
 RN 25232-42-2 HCA  
 CN 1H-Imidazole, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1072-63-5

CMF C5 H6 N2

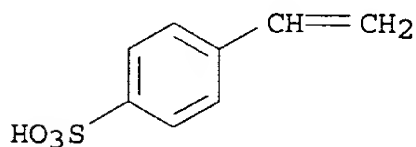


RN 103437-05-4 HCA  
 CN Benzenesulfonic acid, 4-ethenyl-, potassium salt, polymer with  
 1-ethenyl-1H-imidazole and 1-ethenyl-2-pyrrolidinone (9CI) (CA  
 INDEX NAME)

CM 1

CRN 4551-90-0

CMF C8 H8 O3 S . K

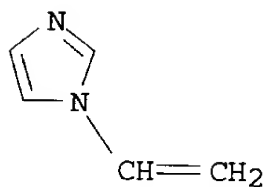


K

CM 2

CRN 1072-63-5

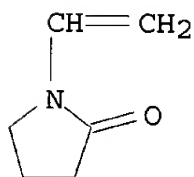
CMF C5 H6 N2



CM 3

CRN 88-12-0

CMF C6 H9 N O



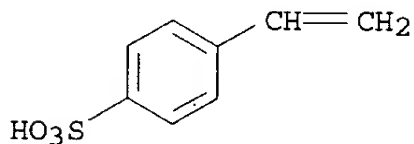
RN 159105-83-6 HCA

CN Benzenesulfonic acid, 4-ethenyl-, potassium salt, polymer with  
1-ethenyl-1H-imidazole (9CI) (CA INDEX NAME)

CM 1

CRN 4551-90-0

CMF C8 H8 O3 S . K

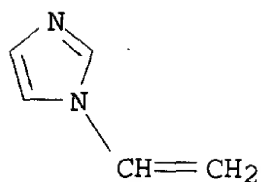


● K

CM 2

CRN 1072-63-5

CMF C5 H6 N2



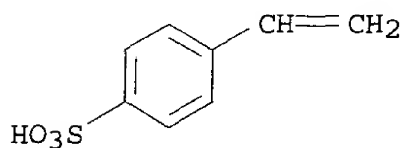
RN 163921-06-0 HCA

CN Benzenesulfonic acid, 4-ethenyl-, potassium salt, polymer with  
1-ethenyl-1H-imidazole and 1-(2-propenyl)-2-pyrrolidinone (9CI) (CA  
INDEX NAME)

CM 1

CRN 4551-90-0

CMF C8 H8 O3 S . K

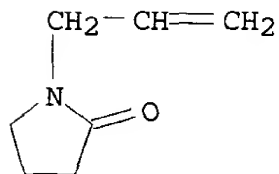


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CM 2

CRN 2687-97-0

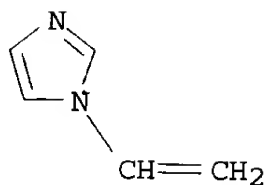
CMF C7 H11 N O



CM 3

CRN 1072-63-5

CMF C5 H6 N2

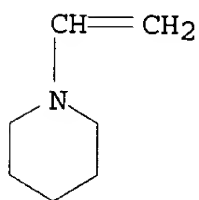


RN 163921-07-1 HCA  
 CN Benzenesulfonic acid, 4-ethenyl-, potassium salt, polymer with  
 1-ethenyl-2-methyl-1H-imidazole and 1-ethenylpiperidine (9CI) (CA  
 INDEX NAME)

CM 1

CRN 15311-58-7

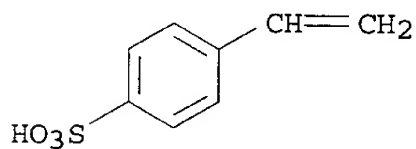
CMF C7 H13 N



CM 2

CRN 4551-90-0

CMF C8 H8 O3 S . K

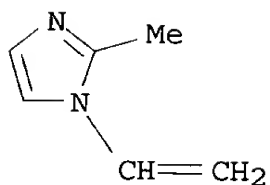


● K

CM 3

CRN 2851-95-8

CMF C6 H8 N2



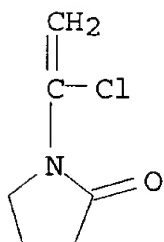
RN 163921-10-6 HCA

CN Benzenesulfonic acid, 4-(1-chloroethenyl)-, potassium salt, polymer with 1-(1-chloroethenyl)-2-pyrrolidinone and 1-ethenyl-4-methyl-1H-imidazole (9CI) (CA INDEX NAME)

CM 1

CRN 163921-09-3

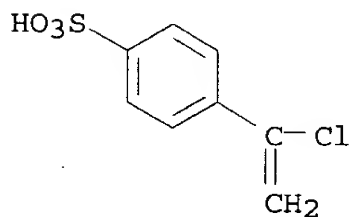
CMF C6 H8 Cl N O



CM 2

CRN 163921-08-2

CMF C8 H7 Cl O3 S . K

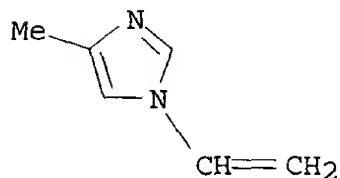


K

CM 3

CRN 53661-92-0

CMF C6 H8 N2



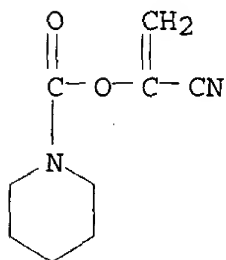
RN 163921-12-8 HCA

CN 1-Piperidinecarboxylic acid, 1-cyanoethenyl ester, polymer with  
1-ethenyl-2-methyl-1H-imidazole (9CI) (CA INDEX NAME)

CM 1

CRN 163921-11-7

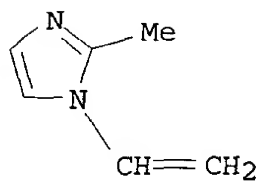
CMF C9 H12 N2 O2



CM 2

CRN 2851-95-8

CMF C6 H8 N2



RN 163921-14-0 HCA

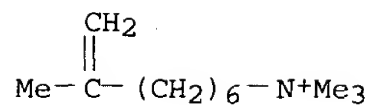
CN 7-Octen-1-aminium, N,N,N,7-tetramethyl-, bromide, polymer with  
1-ethenyl-2-methyl-1H-imidazole (9CI) (CA INDEX NAME)

CM 1

CRN 163921-13-9

CMF C12 H26 N . Br

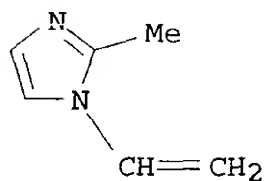


Br<sup>-</sup>

CM 2

CRN 2851-95-8

CMF C6 H8 N2



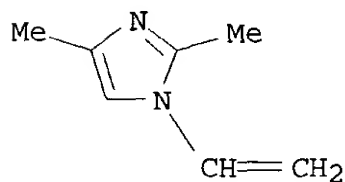
RN 163921-15-1 HCA

CN 1H-Imidazolium, 1-ethenyl-3-methyl-, chloride, polymer with  
1-ethenyl-2,4-dimethyl-1H-imidazole (9CI) (CA INDEX NAME)

CM 1

CRN 18253-97-9

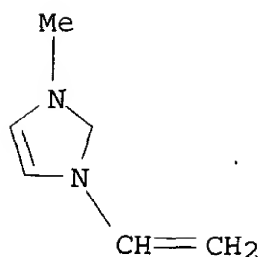
CMF C7 H10 N2



CM 2

CRN 13474-25-4

CMF C6 H9 N2 . Cl



● Cl<sup>-</sup>

\*\*\* FRAGMENT DIAGRAM IS INCOMPLETE \*\*\*

IC ICM B41M005-38

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 41

IT **Inks**

(printing, sublimable, thermal-transfer, thermal-transfer recording materials)

IT 135274-81-6 137999-79-2 163921-16-2 **163921-17-3**  
163921-18-4 163921-19-5 163921-20-8 163921-21-9  
163921-22-0 163921-23-1 163921-24-2 163921-25-3  
163921-26-4 163921-27-5 163967-17-7

(thermal-transferable dyes)

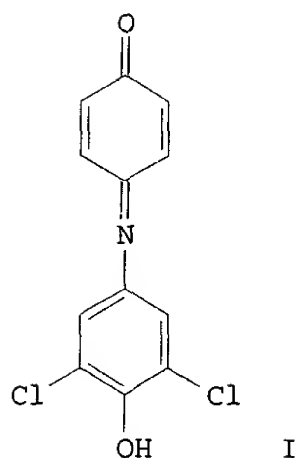
IT 25232-42-2 103437-05-4 159105-83-6  
163921-06-0 163921-07-1 163921-10-6  
163921-12-8 163921-14-0 163921-15-1

(vinyl polymers of dye-receiving layer)

L42 ANSWER 2 OF 10 HCA COPYRIGHT 2003 ACS

115:210259 Thermal-transfer printing process. Komamura, Tawara; Masukawa, Toyooki (Konica Co., Japan). Jpn. Kokai Tokkyo Koho JP 03083685 A2 19910409 Heisei, 9 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1989-222482 19890829.

GI

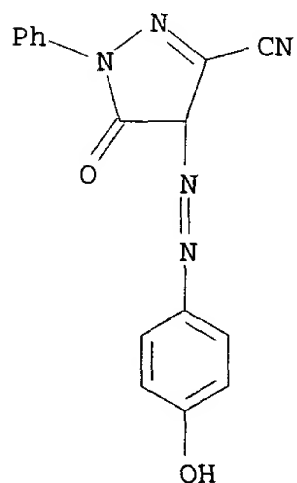


AB A process giving prints with good fixing ability involves phenolic OH-contg. colorant-contg. donors and basic compd.- and/or mordant-contg. receivers. Thus, transfer printing from a polyimide film coated with a cyan dye I-contg. **ink** onto a paper coated with a soln. contg. poly(vinylpyrrolidone) and a mordant (copolymer of styrene, divinylbenzene, and CH<sub>2</sub>:CMeCONHC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>N+Me<sub>2</sub>CH<sub>2</sub>Ph Cl-) gave prints with color d. 1.62 and low retransfer tendency.

IT **136815-31-1**  
(colorants, with mordant-contg. receivers, for thermal-transfer printing)

RN 136815-31-1 HCA

CN 1H-Pyrazole-3-carbonitrile, 4,5-dihydro-4-[(4-hydroxyphenyl)azo]-5-oxo-1-phenyl- (9CI) (CA INDEX NAME)



IT **136507-57-8**

(mordants, receivers contg., with phenolic colorant-contg. donors, for thermal-transfer printing)

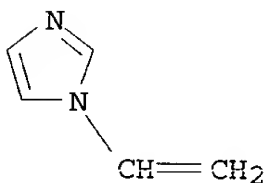
RN 136507-57-8 HCA

CN 2-Propenoic acid, butyl ester, polymer with 1-ethenyl-1H-imidazole and 4-ethenylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 1072-63-5

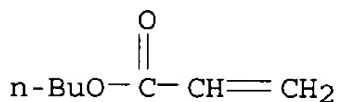
CMF C5 H6 N2



CM 2

CRN 141-32-2

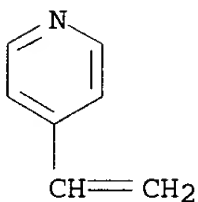
CMF C7 H12 O2



CM 3

CRN 100-43-6

CMF C7 H7 N



IC ICM B41M005-38

CC 42-2 (Coatings, Inks, and Related Products)

IT 128-94-9 956-48-9 136815-29-7 136815-30-0 136815-31-1

(colorants, with mordant-contg. receivers, for thermal-transfer printing)

IT 87338-68-9 136502-84-6 136507-57-8

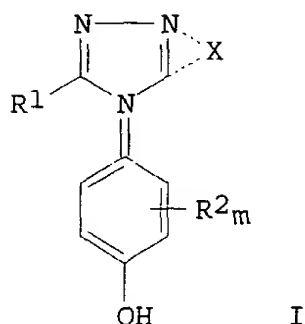
(mordants, receivers contg., with phenolic colorant-contg.

donors, for thermal-transfer printing)

L42 ANSWER 3 OF 10 HCA COPYRIGHT 2003 ACS

115:185559 Thermal-transfer printing media. Komamura, Tawara; Miura, Akio (Konica Co., Japan). Jpn. Kokai Tokkyo Koho JP 03090387 A2 19910416 Heisei, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-228601 19890904.

GI



AB The title media contain **inks** contg. colorants I [R1, R2 = H, halogen, (cyclo)alkyl, aryl, aralkyl, alkenyl, alkoxy, aryloxy, CN, NH2, MeCO, MeCONH, alkylthio, arylthio, sulfonylamino, ureido, carbamoyl, sulfamoyl, alkoxycarbonyl, aryloxy carbonyl, sulfonyl, X = heterocyclic group residues; m = 1-4]. Thus, I (R1 = iso-Pr, R2 = Cl, X = methylpyrazole residue, m = 2) was used.

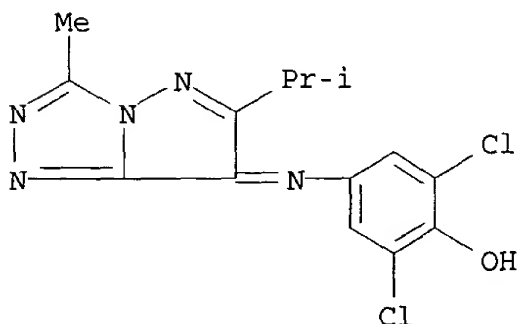
IT 136595-11-4 136595-12-5 136595-13-6

136595-14-7 136595-15-8

(dyes, for thermal-transfer **inks**)

RN 136595-11-4 HCA

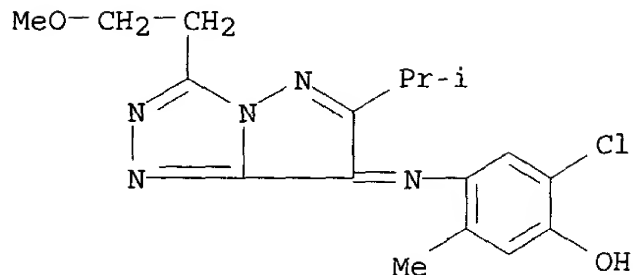
CN Phenol, 2,6-dichloro-4-[[3-methyl-6-(1-methylethyl)-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]amino]- (9CI) (CA INDEX NAME)



RN 136595-12-5 HCA

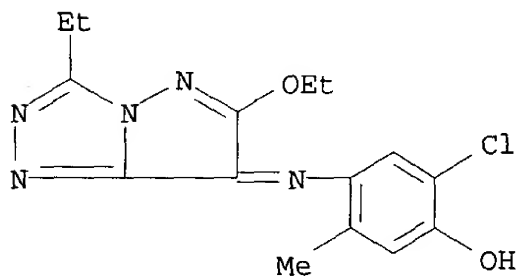
CN Phenol, 2-chloro-4-[[3-(2-methoxyethyl)-6-(1-methylethyl)-7H-

pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]amino]-5-methyl- (9CI) (CA INDEX NAME)



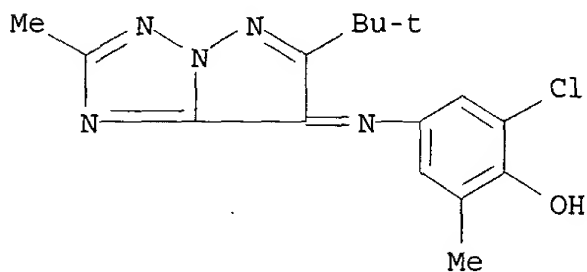
RN 136595-13-6 HCA

CN Phenol, 2-chloro-4-[[6-ethoxy-3-ethyl-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]amino]-5-methyl- (9CI) (CA INDEX NAME)



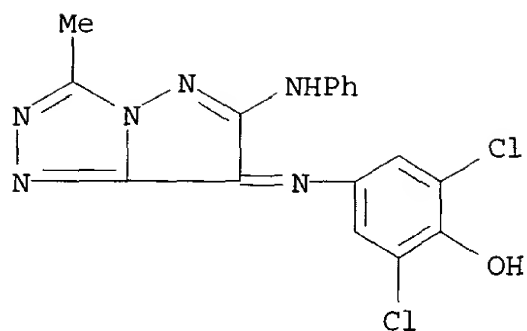
RN 136595-14-7 HCA

CN Phenol, 2-chloro-4-[[6-(1,1-dimethylethyl)-2-methyl-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]-6-methyl- (9CI) (CA INDEX NAME)



RN 136595-15-8 HCA

CN Phenol, 2,6-dichloro-4-[[3-methyl-6-(phenylamino)-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]amino]-5-methyl- (9CI) (CA INDEX NAME)



IT 136507-57-8

(mordant, receivers contg., for thermal-transfer media)

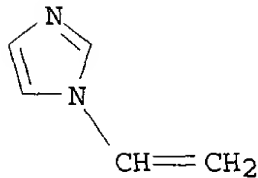
RN 136507-57-8 HCA

CN 2-Propenoic acid, butyl ester, polymer with 1-ethenyl-1H-imidazole and 4-ethenylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 1072-63-5

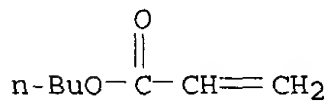
CMF C5 H6 N2



CM 2

CRN 141-32-2

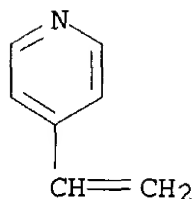
CMF C7 H12 O2



CM 3

CRN 100-43-6

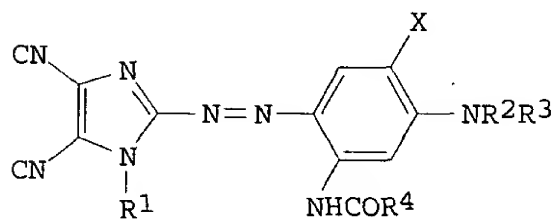
CMF C7 H7 N



IC ICM B41M005-38  
 CC 42-12 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 41 .  
 IT Dyes  
 (hydroxyanilinopyrazole derivs., for thermal-transfer  
 inks)  
 IT Inks  
 (printing, thermal-transfer, contg. hydroxyanilinopyrazole deriv.  
 dyes)  
 IT 136595-11-4 136595-12-5 136595-13-6 .  
 136595-14-7 136595-15-8  
 (dyes, for thermal-transfer inks)  
 IT 87338-68-9 136502-84-6 136507-57-8  
 (mordant, receivers contg., for thermal-transfer media)

L42 ANSWER 4 OF 10 HCA COPYRIGHT 2003 ACS  
 114:124596 Thermal-transfer printing by using dicyanoimidazolyl  
 anilino azo sublimation dye. Murata, Jukichi (Mitsubishi Kasei  
 Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02241784 A2 19900926  
 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
 1989-64686 19890315.

GI



I

AB A support is patternwise printed by an ink contg. an azo  
 sublimation dye I [R1-3 = H, (substituted) alkyl, cycloalkyl, allyl,  
 (substituted) phenyl; X = H, alkyl, alkoxy, halo; R4 = H, alkyl,  
 CF3, alkoxy, (substituted) Ph, (substituted) vinyl], laminated with  
 an ink-accepting resin material, and heated to give a  
 transfer-printed product. Thus, an ink contg. I (R1= Bu;  
 R2 = CH2CH<sub>2</sub>EtBu; R3 = H; R4, X = Me), ethylcellulose, iso-Pr alc.,  
 methyl Cellosolve, and toluene was gravure-printed onto a coated



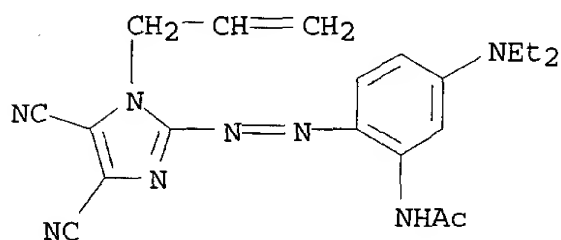
paper to give the title transfer sheet, which was laminated with a PET sheet and hot-pressed at lower temp. than the conventional process to give a clear magenta-colored printed product.

IT 57563-08-3 57601-40-8 107688-91-5  
 107689-03-2 132717-17-0 132717-18-1  
 132717-19-2 132717-20-5 132717-21-6  
 132717-22-7 132717-23-8 132717-24-9  
 132717-25-0 132717-26-1 132717-27-2  
 132717-28-3 132717-29-4 132717-30-7  
 132717-31-8 132717-32-9 132717-33-0  
 132717-34-1 132717-35-2 132733-66-5

(thermal-transfer sublimation dye, for nonimpact low temp.-printable ink)

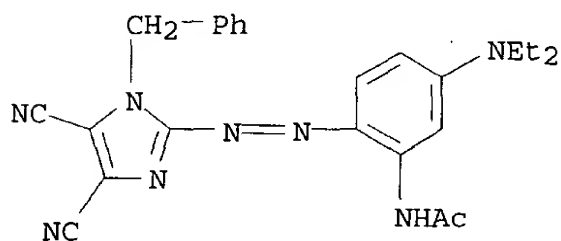
RN 57563-08-3 HCA

CN Acetamide, N-[2-[[4,5-dicyano-1-(2-propenyl)-1H-imidazol-2-yl]azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



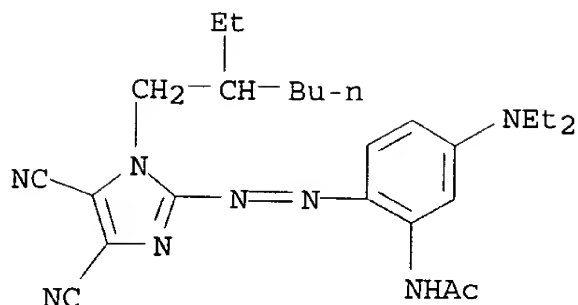
RN 57601-40-8 HCA

CN Acetamide, N-[2-[[4,5-dicyano-1-(phenylmethyl)-1H-imidazol-2-yl]azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



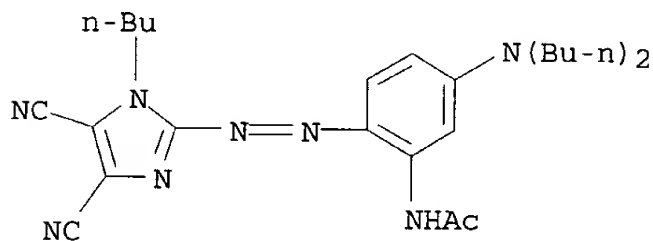
RN 107688-91-5 HCA

CN Acetamide, N-[2-[[4,5-dicyano-1-(2-ethylhexyl)-1H-imidazol-2-yl]azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



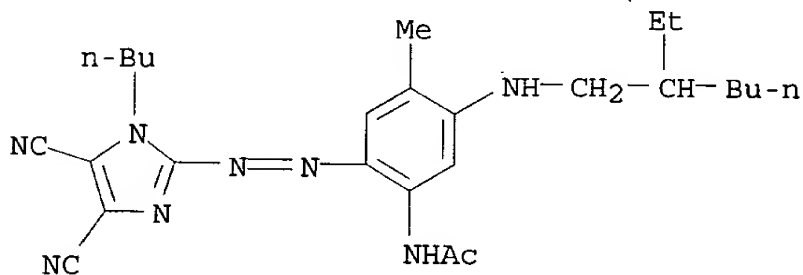
RN 107689-03-2 HCA

CN Acetamide, N-[2-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-5-(dibutylamino)phenyl]- (9CI) (CA INDEX NAME)



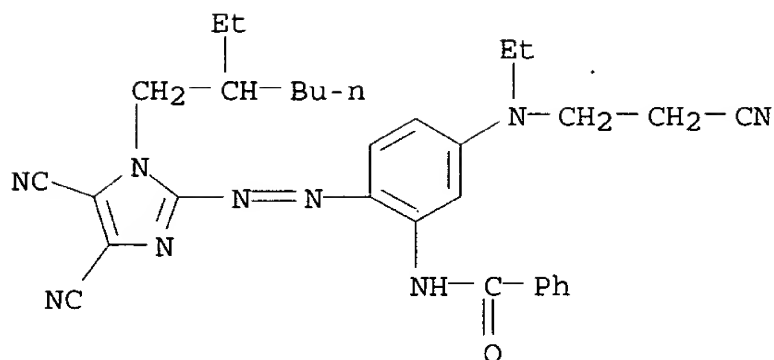
RN 132717-17-0 HCA

CN Acetamide, N-[2-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-5-[(2-ethylhexyl)amino]-4-methylphenyl]- (9CI) (CA INDEX NAME)

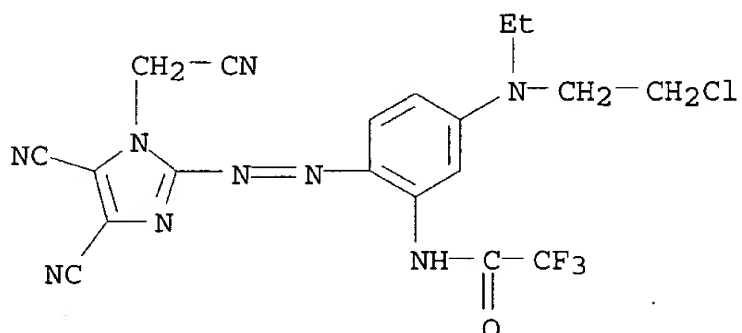


RN 132717-18-1 HCA

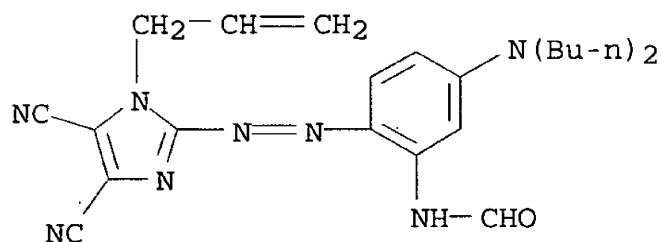
CN Benzamide, N-[5-[(2-cyanoethyl)ethylamino]-2-[[4,5-dicyano-1-(2-ethylhexyl)-1H-imidazol-2-yl]azo]phenyl]- (9CI) (CA INDEX NAME)



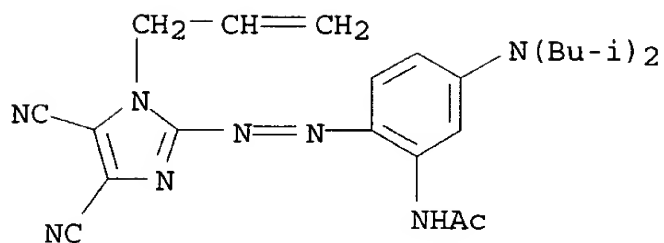
RN 132717-19-2 HCA  
 CN Acetamide, N-[5-[(2-chloroethyl)ethylamino]-2-[[4,5-dicyano-1-(cyanomethyl)-1H-imidazol-2-yl]azo]phenyl]-2,2,2-trifluoro- (9CI)  
 (CA INDEX NAME)



RN 132717-20-5 HCA  
 CN Formamide, N-[5-(dibutylamino)-2-[[4,5-dicyano-1-(2-propenyl)-1H-imidazol-2-yl]azo]phenyl]- (9CI) (CA INDEX NAME)

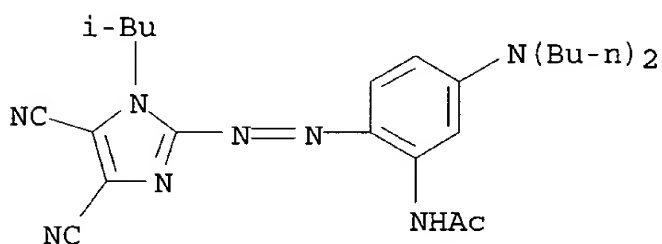


RN 132717-21-6 HCA  
 CN Acetamide, N-[5-[[bis(2-methylpropyl)amino]-2-[[4,5-dicyano-1-(2-propenyl)-1H-imidazol-2-yl]azo]phenyl]- (9CI) (CA INDEX NAME)



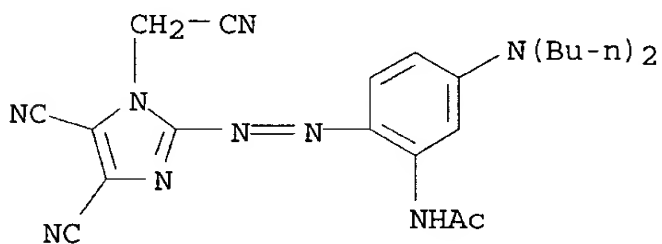
RN 132717-22-7 HCA

CN Acetamide, N-[5-(dibutylamino)-2-[[4,5-dicyano-1-(2-methylpropyl)-1H-imidazol-2-yl]azo]phenyl]- (9CI) (CA INDEX NAME)



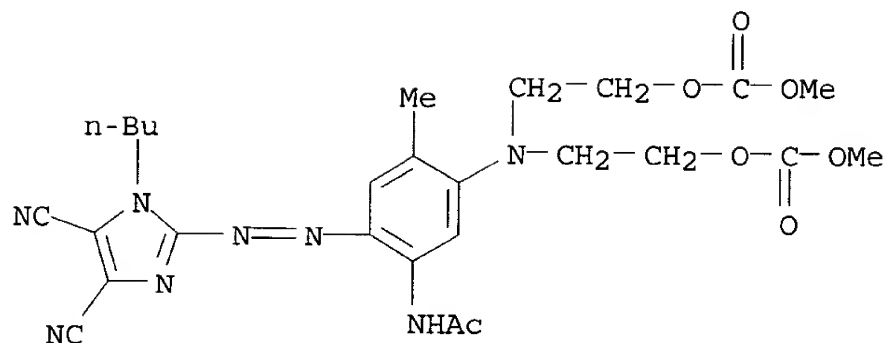
RN 132717-23-8 HCA

CN Acetamide, N-[5-(dibutylamino)-2-[[4,5-dicyano-1-(cyanomethyl)-1H-imidazol-2-yl]azo]phenyl]- (9CI) (CA INDEX NAME)



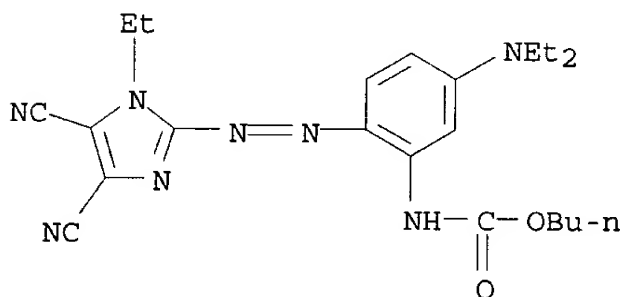
RN 132717-24-9 HCA

CN 2,4,10-Trioxa-7-azaundecan-11-oic acid, 7-[5-(acetylamino)-4-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-2-methylphenyl]-3-oxo-, methyl ester (9CI) (CA INDEX NAME)



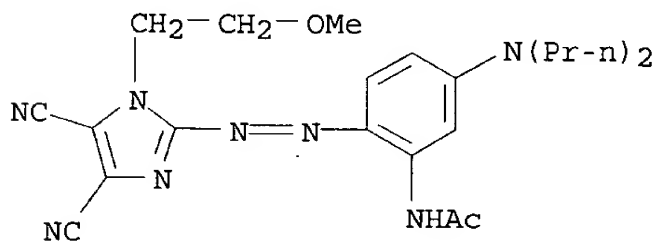
RN 132717-25-0 HCA

CN Carbamic acid, [2-[(4,5-dicyano-1-ethyl-1H-imidazol-2-yl)azo]-5-(diethylamino)phenyl]-, butyl ester (9CI) (CA INDEX NAME)



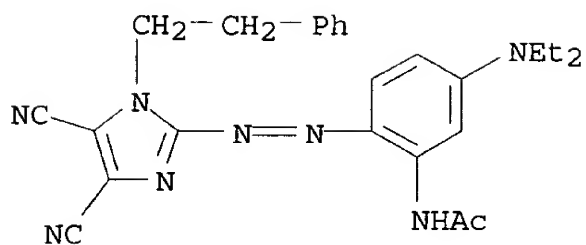
RN 132717-26-1 HCA

CN Acetamide, N-[2-[[4,5-dicyano-1-(2-methoxyethyl)-1H-imidazol-2-yl]azo]-5-(dipropylamino)phenyl]- (9CI) (CA INDEX NAME)

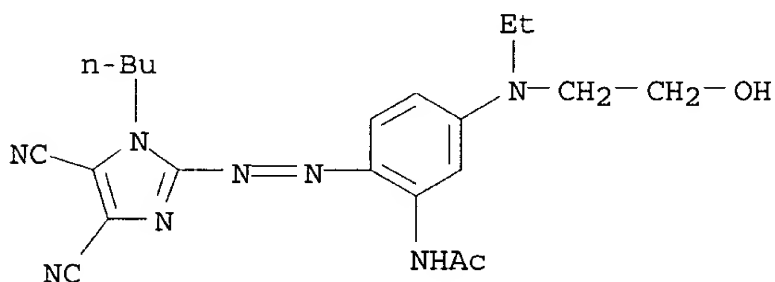


RN 132717-27-2 HCA

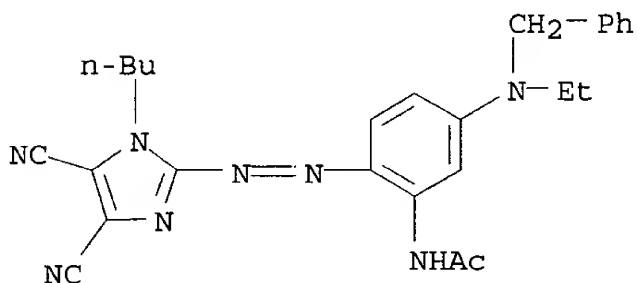
CN Acetamide, N-[2-[[4,5-dicyano-1-(2-phenylethyl)-1H-imidazol-2-yl]azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



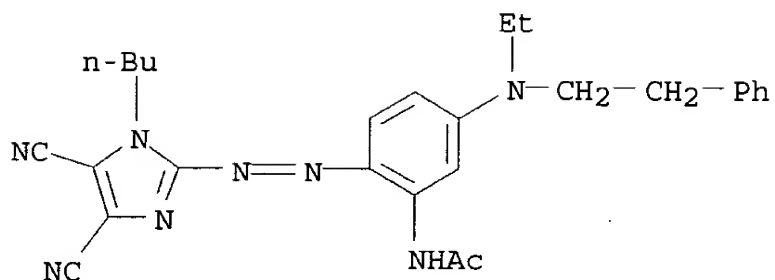
RN 132717-28-3 HCA  
 CN Acetamide, N-[2-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-5-ethyl(2-hydroxyethyl)amino]phenyl]- (9CI) (CA INDEX NAME)



RN 132717-29-4 HCA  
 CN Acetamide, N-[2-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-5-ethyl(phenylmethyl)amino]phenyl]- (9CI) (CA INDEX NAME)

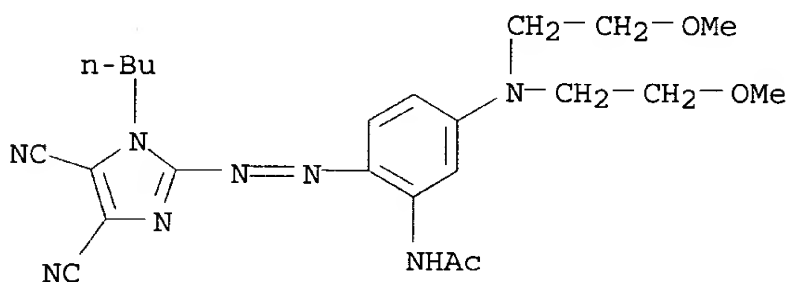


RN 132717-30-7 HCA  
 CN Acetamide, N-[2-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-5-ethyl(2-phenylethyl)amino]phenyl]- (9CI) (CA INDEX NAME)



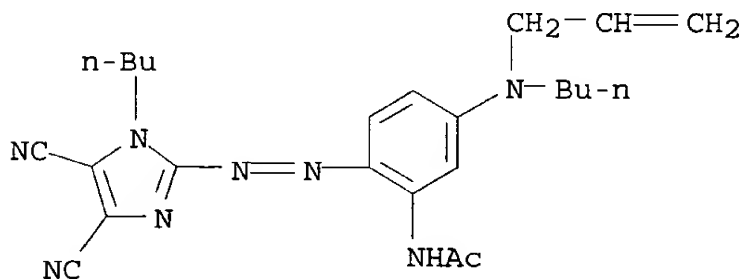
RN 132717-31-8 HCA

CN Acetamide, N-[5-[bis(2-methoxyethyl)amino]-2-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]phenyl]-(9CI) (CA INDEX NAME)



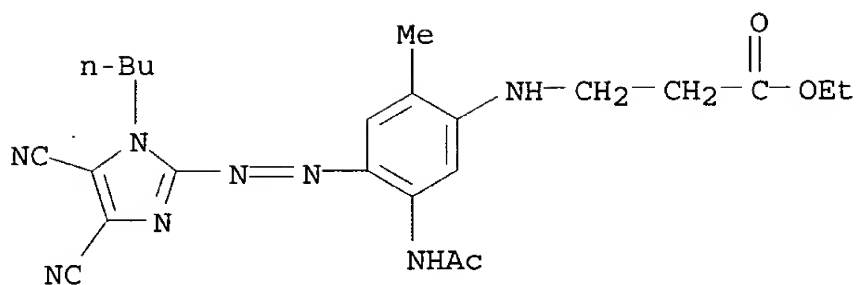
RN 132717-32-9 HCA

CN Acetamide, N-[2-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-5-(butyl-2-propenylamino)phenyl]-(9CI) (CA INDEX NAME)



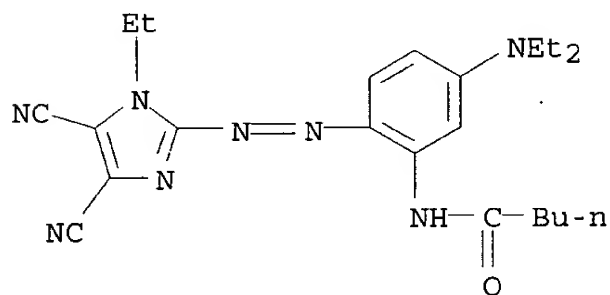
RN 132717-33-0 HCA

CN .beta.-Alanine, N-[5-(acetamino)-4-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-2-methylphenyl]-, ethyl ester (9CI) (CA INDEX NAME)



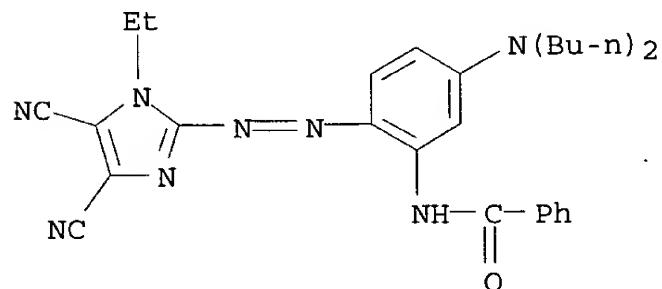
RN 132717-34-1 HCA

CN Pentanamide, N-[2-[(4,5-dicyano-1-ethyl-1H-imidazol-2-yl)azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



RN 132717-35-2 HCA

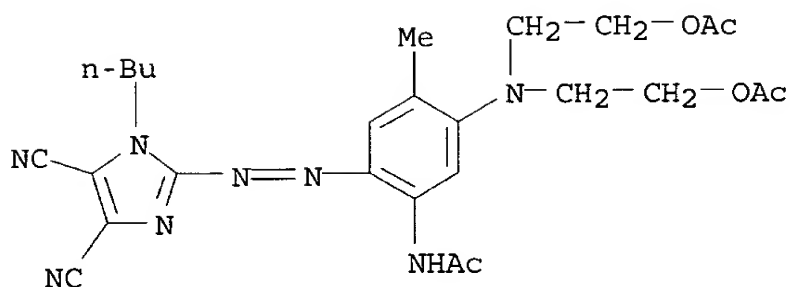
CN Benzamide, N-[5-(dibutylamino)-2-[(4,5-dicyano-1-ethyl-1H-imidazol-2-yl)azo]phenyl]- (9CI) (CA INDEX NAME)



RN 132733-66-5 HCA

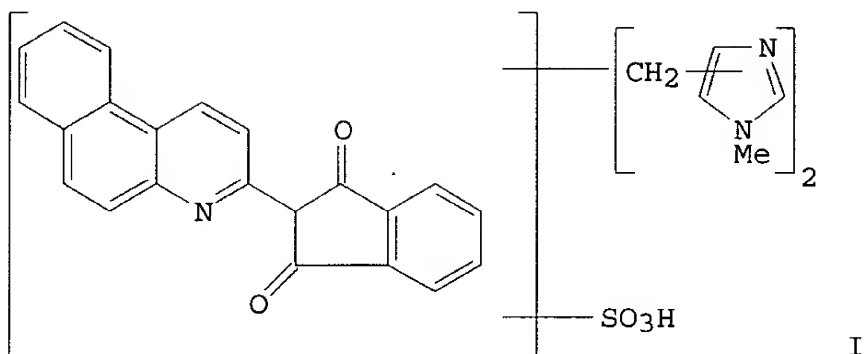
CN Acetamide, N-[5-[bis[2-(acetyloxy)ethyl]amino]-2-[(1-butyl-4,5-dicyano-1H-imidazol-2-yl)azo]-4-methylphenyl]- (9CI) (CA INDEX NAME)





- IC ICM B41M003-12  
ICS C09D011-00; C09D011-02
- CC 42-2 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 74
- ST thermal transfer printing sublimation dye; azo  
**dicyanoimidazolyl** anilino dye sublimation; low temp transfer  
printing ink
- IT Polycarbonates, uses and miscellaneous  
(thermal-transfer sublimation dye-accepting sheet,  
**dicyanoimidazolyl** anilino azo dye for)
- IT Polyesters, uses and miscellaneous  
(arom., thermal-transfer sublimation dye-accepting sheet,  
**dicyanoimidazolyl** anilino azo dye for)
- IT Printing, nonimpact  
(thermal-transfer, low-temp., **dicyanoimidazolyl** anilino  
azo dye in)
- IT 57563-08-3 57601-40-8 107688-91-5  
107689-03-2 132717-17-0 132717-18-1  
132717-19-2 132717-20-5 132717-21-6  
132717-22-7 132717-23-8 132717-24-9  
132717-25-0 132717-26-1 132717-27-2  
132717-28-3 132717-29-4 132717-30-7  
132717-31-8 132717-32-9 132717-33-0  
132717-34-1 132717-35-2 132733-66-5  
(thermal-transfer sublimation dye, for nonimpact low  
temp.-printable ink)
- IT 108-95-2D, Phenol, polymers 24968-12-5, Poly(butylene  
terephthalate) 25038-59-9, PET, uses and miscellaneous  
26062-94-2, Butylene glycol-terephthalic acid copolymer  
(thermal-transfer sublimation dye-accepting sheet,  
**dicyanoimidazolyl** anilino azo dye for)
- L42 ANSWER 5 OF 10 HCA COPYRIGHT 2003 ACS  
112:160750 **Jet-printing inks** containing  
dyes having aminomethyl or **imidazolymethyl** groups.  
Mayer, Udo; Bruder, Horst; Ruske, Manfred (BASF A.-G., Fed. Rep.  
Ger.). Eur. Pat. Appl. EP 335237 A2 19891004, 8 pp. DESIGNATED  
STATES: R: CH, DE, ES, FR, GB, IT, LI. (German). CODEN: EPXXDW.  
APPLICATION: EP 1989-105094 19890322. PRIORITY: DE 1988-3810958  
19880331.

GI

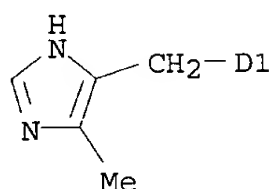
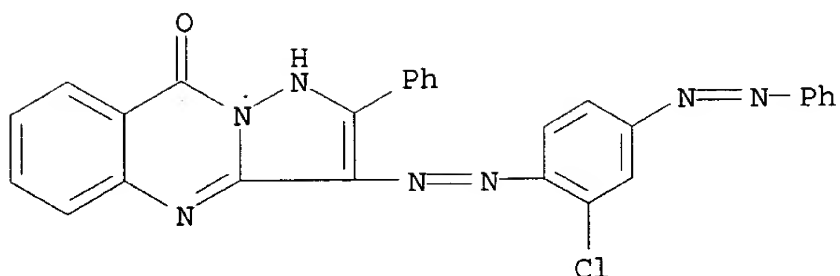


AB Water-thinnable, jet-printing inks that produce water- and smear-resistant prints contained azo, quinophthalone, bisdioxazine, 2,7-diphenylxanthene or Cu phthalocyanine dyes with imidazole, aminoalkylcarbonylaminoethyl, or aminomethyl groups. Thus, an ink contg. 3.5% dye I and a 6:3:1 water-DEG-N-methylpyrrolidone solvent produced yellow print on paper that did not smear when rubbed with a moist finger or a text marker.

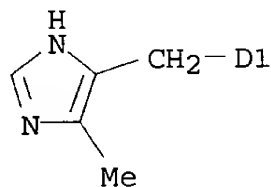
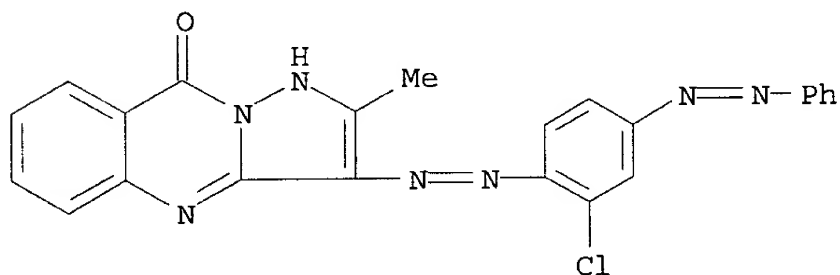
IT 126169-36-6 126169-37-7  
(inks contg., jet-printing, org.  
solvent-water-thinned, moisture and smear-resistant)

RN 126169-36-6 HCA

CN    Pyrazolo[5,1-b]quinazolin-9(1H)-one, 3-[[2-chloro-4-(phenylazo)phenyl]azo]-2-phenyl-, mono[(5-methyl-1H-imidazol-4-yl)methyl] deriv. (9CI)    (CA INDEX NAME)



RN 126169-37-7 HCA  
 CN Pyrazolo[5,1-b]quinazolin-9(1H)-one, 3-[[2-chloro-4-(phenylazo)phenyl]azo]-2-methyl-, mono[(5-methyl-1H-imidazol-4-yl)methyl] deriv. (9CI) (CA INDEX NAME)

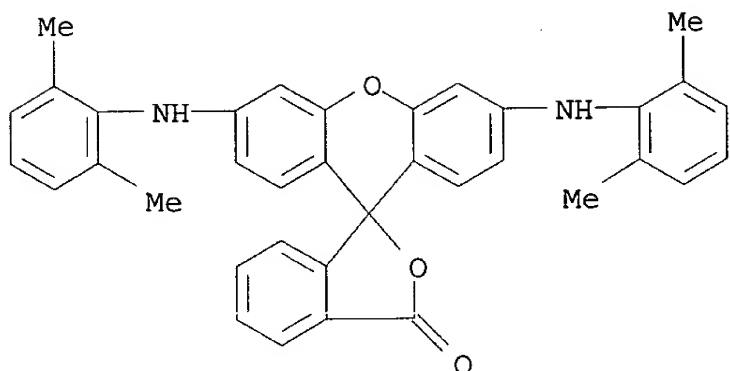


IT 126338-01-0 126389-91-1  
 (oligomeric, inks contg., jet-printing, org. solvent-water-thinned, moisture- and smear-resistant)  
 RN 126338-01-0 HCA  
 CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 3',6'-bis[(2,6-dimethylphenyl)amino]-, polymer with 2-phenyl-1H-imidazole-4,5-dimethanol (9CI) (CA INDEX NAME)

CM 1

CRN 84373-11-5

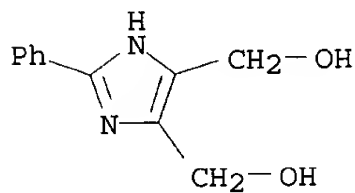
CMF C36 H30 N2 O3



CM 2

CRN 61698-32-6

CMF C11 H12 N2 O2



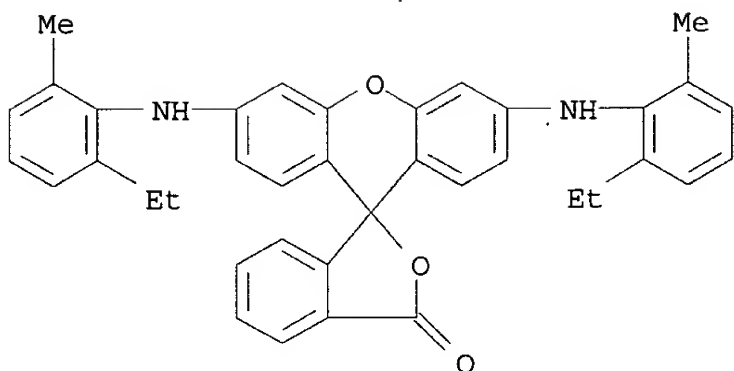
RN 126389-91-1 HCA

CN Spiro[isobenzofuran-1(3H),9' - [9H]xanthen]-3-one,  
 3',6'-bis[(2-ethyl-6-methylphenyl)amino]-, polymer with  
 2-phenyl-1H-imidazole-4,5-dimethanol (9CI) (CA INDEX NAME)

CM 1

CRN 84373-12-6

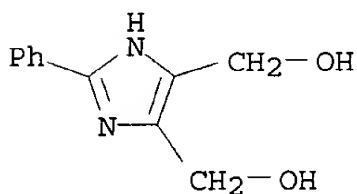
CMF C38 H34 N2 O3



CM 2

CRN 61698-32-6

CMF C11 H12 N2 O2



IC ICM C09D011-00

CC 42-12 (Coatings, Inks, and Related Products)

ST water thinnable **jet printing ink**;  
 smear resistant **jet printing ink**; azo  
 dye **jet printing ink**; quinophthalone  
 dye **jet printing ink**; bisdioxazine dye  
**jet printing ink**; xanthene dye  
**jet printing ink**; copper phthalocyanine  
 dye printing ink; imidazole group dye printing ink  
 ; aminoalkylcarbonylaminomethyl group dye printing ink;  
 aminomethyl group dye printing ink; benzoquinoline deriv  
 dye printing ink; indandione deriv dye printing  
**ink**

IT **Dyes**  
 (aminomethyl and imidazoloylmethyl group-contg., for moisture-  
 and smear-resistant org. solvent-water-thinned **jet-**  
**printing inks**)

IT **Inks**  
 (**jet-printing**, smearproof, water-resistant,  
 water-thinned, contg. dyes with aminomethyl or imidazoloylmethyl  
 groups)

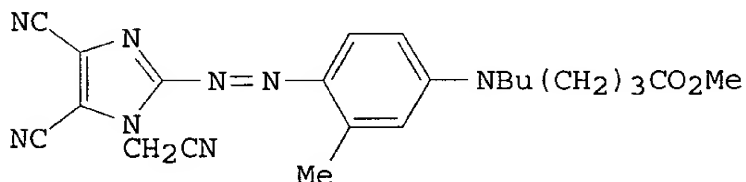
IT 126169-51-5  
 (**inks** contg., **jet-printing**, org.)

- solvent-water-thinned moisture- and smear-resistant)
- IT 50-00-0D, Formaldehyde, reaction products with methylimidazole and xanthene dye 822-36-6D, 4-Methylimidazole, reaction products with formaldehyde and xanthene dye 126169-35-5 126169-36-6 126169-37-7 126169-38-8 126169-39-9 126169-40-2 126169-41-3 126205-47-8D, reaction products with formaldehyde and methylimidazole  
(inks contg., jet-printing, org.  
solvent-water-thinned, moisture and smear-resistant)
- IT 147-14-8D, Copper phthalocyanine, reaction products with ethylimidazole salts with zinc chloride 7098-07-9D, 1-Ethylimidazole, reaction products with copper phthalocyanine, salts with zinc chloride 7646-85-7D, Zinc chloride, salts with copper phthalocyanine-ethylimidazole reaction products 66333-13-9D, sulfo derivs. 68155-71-5D, aminomethylated 68155-72-6D, aminomethylated 83826-67-9 85621-11-0  
(inks contg., jet-printing, org.  
solvent-water-thinned, moisture- and smear-resistant)
- IT 126338-01-0 126389-91-1  
(oligomeric, inks contg., jet-printing, org. solvent-water-thinned, moisture- and smear-resistant)

L42 ANSWER 6 OF 10 HCA COPYRIGHT 2003 ACS

107:144964 Thermal-transfer printing sheets. (Imperial Chemical Industries PLC, UK). Jpn. Kokai Tokkyo Koho JP 62055194 A2 19870310 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-199186 19860827. PRIORITY: GB 1985-21327 19850827.

GI



AB The title sheets are coated with azo dyes of the formula AN:NE, A = heteroarom. ANH2 residual groups, such as imidazolyl, pyrazolyl, thiazolyl, benzothiazolyl, isothiazolyl, benzoisothiazolyl, pyridoisothiazolyl, and thienyl; E = arom. coupling component EX residual groups, optionally substituted aminophenyl, tetrahydroquinolinyl, julolidyl or aminoquinolinyl. Thus, a poly(ethylene terephthalate) sheet was coated with an ink contg. I to give a thermal-transfer sheet.

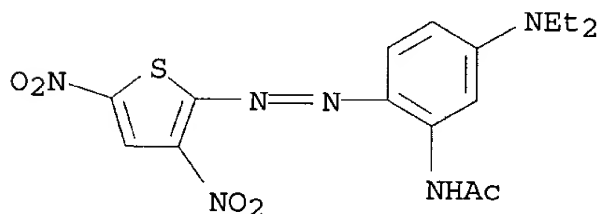
IT 58979-46-7 68110-29-2 70693-64-0  
70865-21-3 72537-33-8 76265-99-1  
78473-28-6 88779-60-6 88779-71-9  
88779-92-4 102301-05-3 102301-07-5

110260-18-9 110260-19-0 110260-20-3  
 110260-21-4 110260-22-5 110260-23-6  
 110260-24-7 110260-25-8 110260-26-9  
 110260-27-0 110260-28-1 110260-29-2  
 110260-30-5 110260-31-6 110260-32-7  
 110260-33-8 110260-34-9 110260-35-0  
 110260-36-1 110260-37-2 110260-38-3  
 110260-39-4 110260-40-7 110260-41-8  
 110260-42-9 110260-43-0 110260-44-1  
 110260-45-2 110260-46-3 110260-47-4  
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 110260-57-6 110260-58-7 110260-59-8  
 110260-60-1 110260-61-2 110260-62-3  
 110260-63-4 110260-64-5 110260-65-6  
 110260-66-7 110282-40-1

(dyes, for thermal transfer inks)

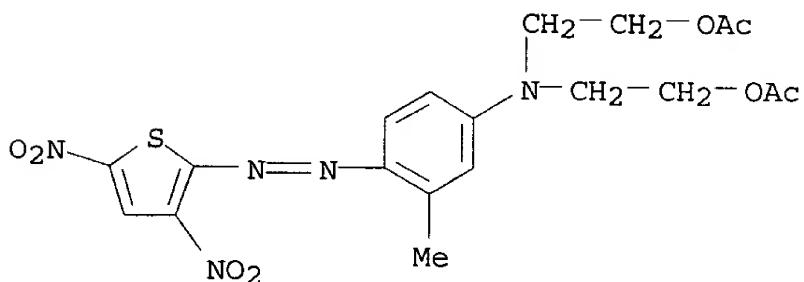
RN 58979-46-7 HCA

CN Acetamide, N-[5-(diethylamino)-2-[(3,5-dinitro-2-thienyl)azo]phenyl]-(9CI) (CA INDEX NAME)



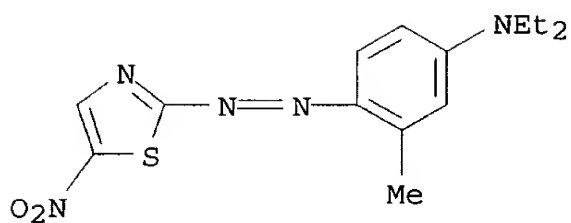
RN 68110-29-2 HCA

CN Ethanol, 2,2'-[[4-[(3,5-dinitro-2-thienyl)azo]-3-methylphenyl]imino]bis-, diacetate (ester) (9CI) (CA INDEX NAME)

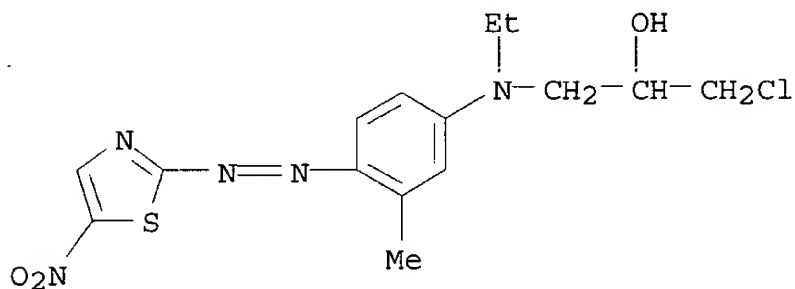


RN 70693-64-0 HCA

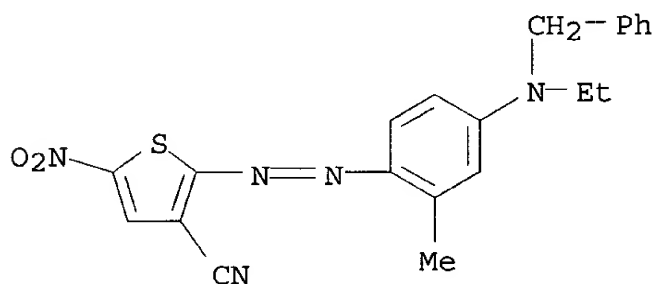
CN Benzenamine, N,N-diethyl-3-methyl-4-[(5-nitro-2-thiazolyl)azo]-(9CI) (CA INDEX NAME)



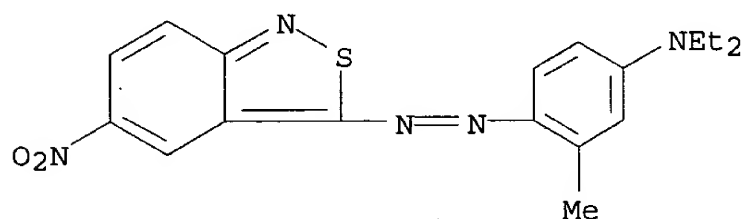
RN 70865-21-3 HCA  
 CN 2-Propanol, 1-chloro-3-[ethyl[3-methyl-4-[(5-nitro-2-thiazolyl)azo]phenyl]amino]- (9CI) (CA INDEX NAME)



RN 72537-33-8 HCA  
 CN 3-Thiophenecarbonitrile, 2-[[4-[ethyl(phenylmethyl)amino]-2-methylphenyl]azo]-5-nitro- (9CI) (CA INDEX NAME)



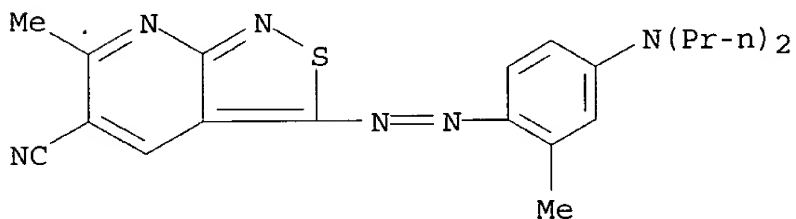
RN 76265-99-1 HCA  
 CN Benzenamine, N,N-diethyl-3-methyl-4-[(5-nitro-2,1-benzisothiazol-3-yl)azo]- (9CI) (CA INDEX NAME)





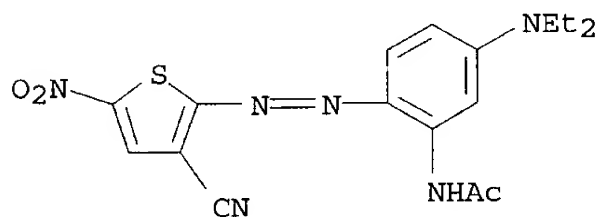
RN 78473-28-6 HCA

CN Isothiazolo[3,4-b]pyridine-5-carbonitrile, 3-[[4-(dipropylamino)-2-methylphenyl]azo]-6-methyl- (9CI) (CA INDEX NAME)



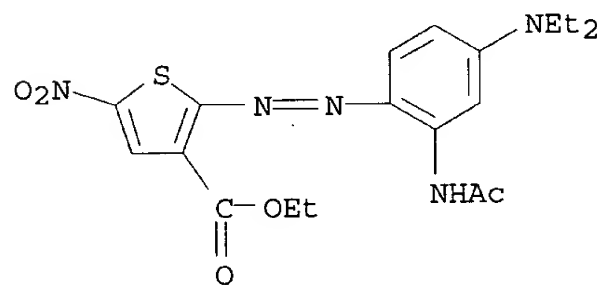
RN 88779-60-6 HCA

CN Acetamide, N-[2-[(3-cyano-5-nitro-2-thienyl)azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



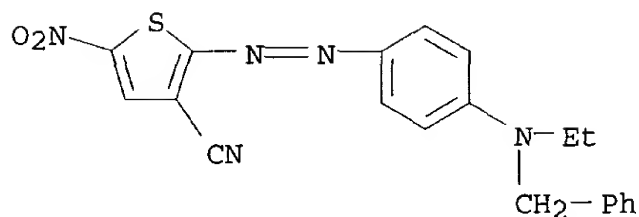
RN 88779-71-9 HCA

CN 3-Thiophenecarboxylic acid, 2-[[2-(acetylamino)-4-(diethylamino)phenyl]azo]-5-nitro-, ethyl ester (9CI) (CA INDEX NAME)



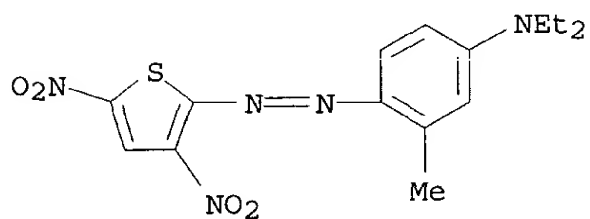
RN 88779-92-4 HCA

CN 3-Thiophenecarbonitrile, 2-[[4-[ethyl(phenylmethyl)amino]phenyl]azo]-5-nitro- (9CI) (CA INDEX NAME)



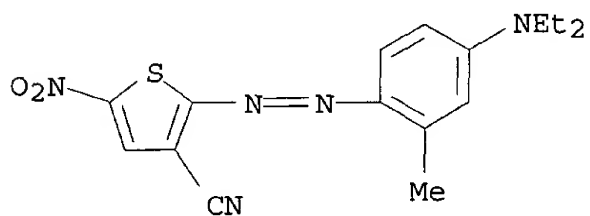
RN 102301-05-3 HCA

CN Benzenamine, 4-[(3,5-dinitro-2-thienyl)azo]-N,N-diethyl-3-methyl-  
(9CI) (CA INDEX NAME)



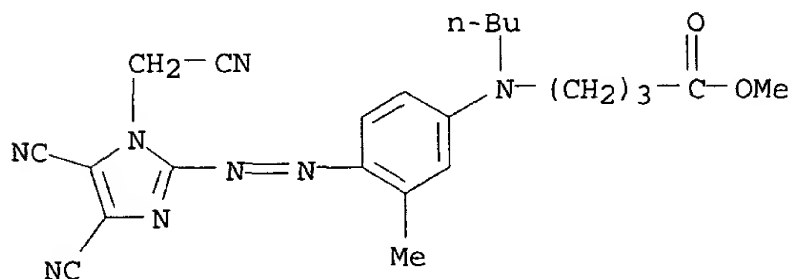
RN 102301-07-5 HCA

CN 3-Thiophenecarbonitrile, 2-[[4-(diethylamino)-2-methylphenyl]azo]-5-nitro-  
(9CI) (CA INDEX NAME)



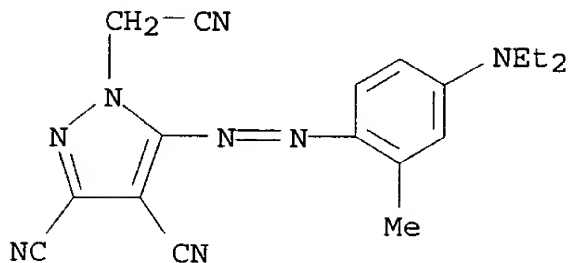
RN 110260-18-9 HCA

CN Butanoic acid, 4-[butyl[4-[[4,5-dicyano-1-(cyanomethyl)-1H-imidazol-2-yl]azo]-3-methylphenyl]amino]-, methyl ester (9CI) (CA INDEX NAME)



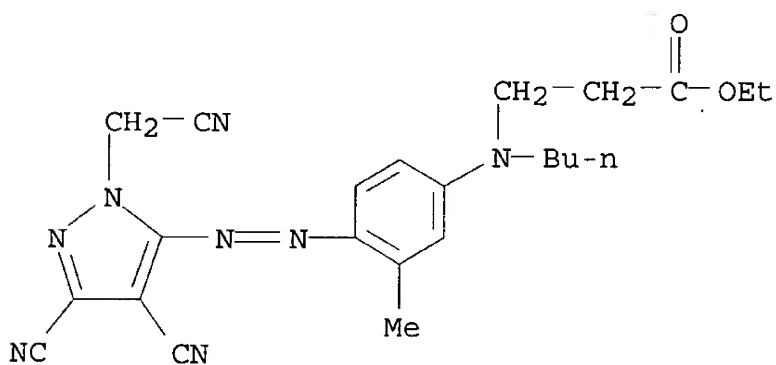
RN 110260-19-0 HCA

CN 1H-Pyrazole-3,4-dicarbonitrile, 1-(cyanomethyl)-5-[[4-(diethylamino)-2-methylphenyl]azo]- (9CI) (CA INDEX NAME)



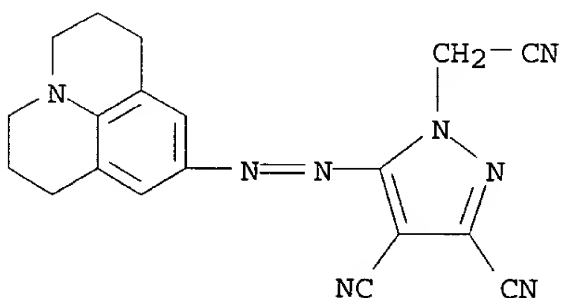
RN 110260-20-3 HCA

CN .beta.-Alanine, N-butyl-N-[4-[[3,4-dicyano-1-(cyanomethyl)-1H-pyrazol-5-yl]azo]-3-methylphenyl]-, ethyl ester (9CI) (CA INDEX NAME)



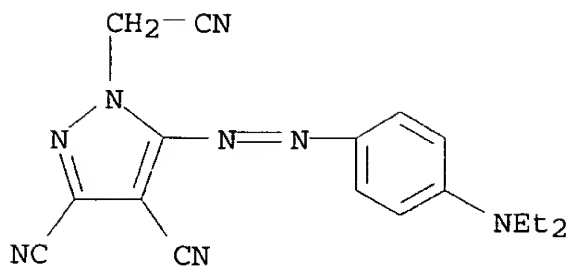
RN 110260-21-4 HCA

CN 1H-Pyrazole-3,4-dicarbonitrile, 1-(cyanomethyl)-5-[(2,3,6,7-tetrahydro-1H,5H-benzo[ij]quinolizin-9-yl)azo]- (9CI) (CA INDEX NAME)

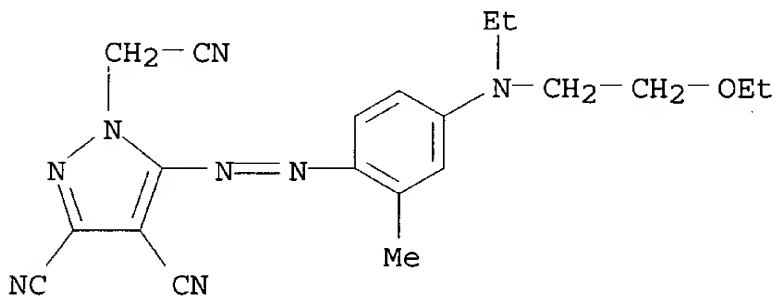


RN 110260-22-5 HCA

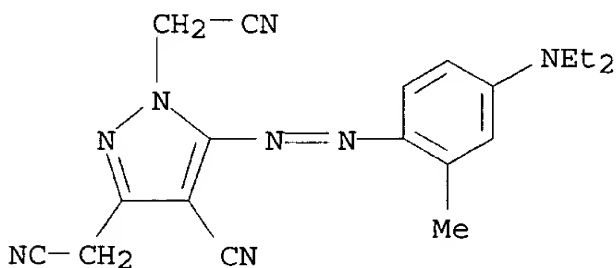
CN 1H-Pyrazole-3,4-dicarbonitrile, 1-(cyanomethyl)-5-[[4-(diethylamino)phenyl]azo]- (9CI) (CA INDEX NAME)



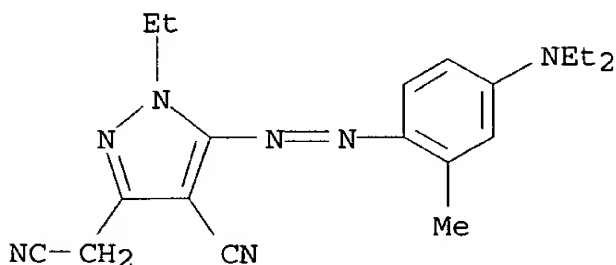
RN 110260-23-6 HCA  
 CN 1H-Pyrazole-3,4-dicarbonitrile, 1-(cyanomethyl)-5-[[4-[(2-ethoxyethyl)ethylamino]-2-methylphenyl]azo]- (9CI) (CA INDEX NAME)



RN 110260-24-7 HCA  
 CN 1H-Pyrazole-1,3-diacetonitrile, 4-cyano-5-[[4-(diethylamino)-2-methylphenyl]azo]- (9CI) (CA INDEX NAME)

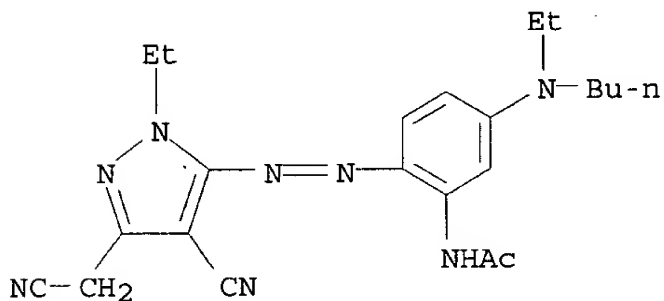


RN 110260-25-8 HCA  
 CN 1H-Pyrazole-3-acetonitrile, 4-cyano-5-[[4-(diethylamino)-2-methylphenyl]azo]-1-ethyl- (9CI) (CA INDEX NAME)



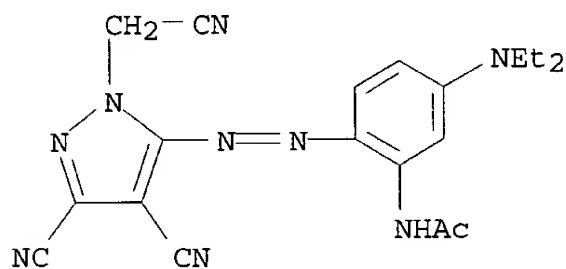
RN 110260-26-9 HCA

CN Acetamide, N-[5-(butylethylamino)-2-[[4-cyano-3-(cyanomethyl)-1-ethyl-1H-pyrazol-5-yl]azo]phenyl]- (9CI) (CA INDEX NAME)



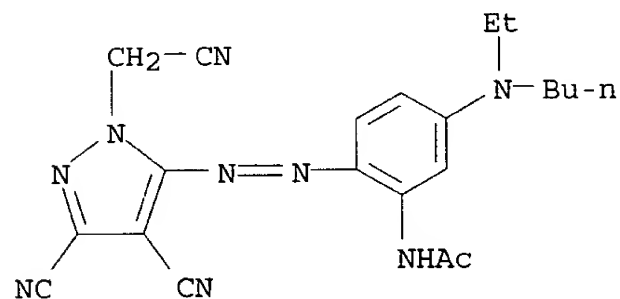
RN 110260-27-0 HCA

CN Acetamide, N-[2-[[3,4-dicyano-1-(cyanomethyl)-1H-pyrazol-5-yl]azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



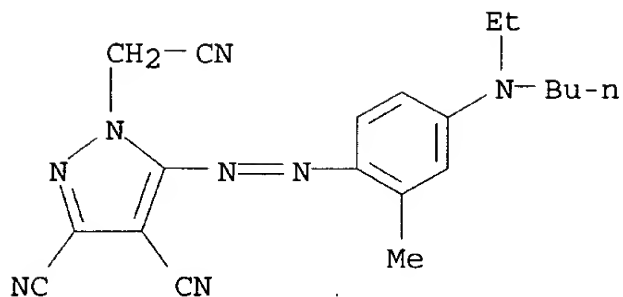
RN 110260-28-1 HCA

CN Acetamide, N-[5-(butylethylamino)-2-[[3,4-dicyano-1-(cyanomethyl)-1H-pyrazol-5-yl]azo]phenyl]- (9CI) (CA INDEX NAME)

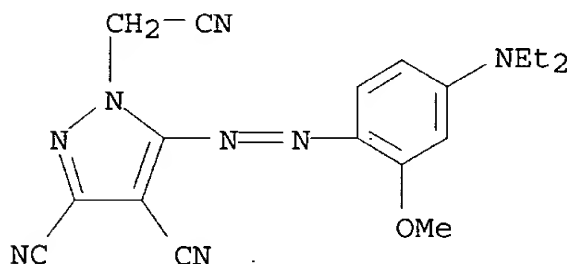


RN 110260-29-2 HCA

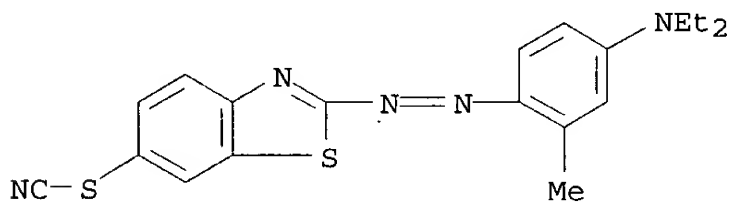
CN 1H-Pyrazole-3,4-dicarbonitrile, 5-[[4-(butylethylamino)-2-methylphenyl]azo]-1-(cyanomethyl)- (9CI) (CA INDEX NAME)



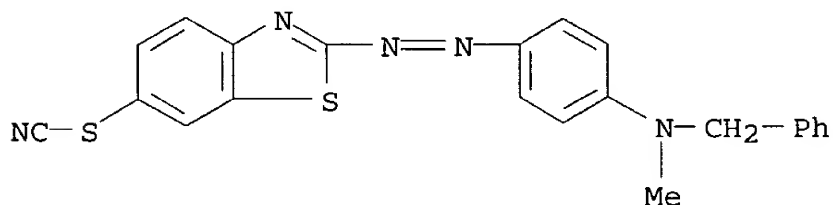
RN 110260-30-5 HCA  
 CN 1H-Pyrazole-3,4-dicarbonitrile, 1-(cyanomethyl)-5-[[4-(diethylamino)-2-methoxyphenyl]azo]- (9CI) (CA INDEX NAME)



RN 110260-31-6 HCA  
 CN Thiocyanic acid, 2-[[4-(diethylamino)-2-methylphenyl]azo]-6-benzothiazolyl ester (9CI) (CA INDEX NAME)

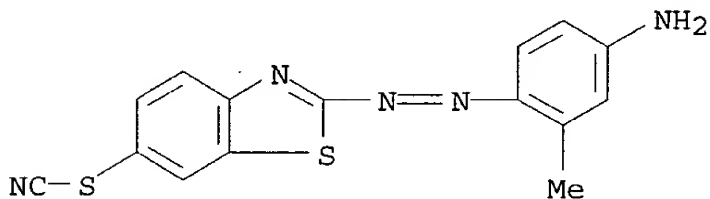


RN 110260-32-7 HCA  
 CN Thiocyanic acid, 2-[[4-[methyl(phenylmethyl)amino]phenyl]azo]-6-benzothiazolyl ester (9CI) (CA INDEX NAME)



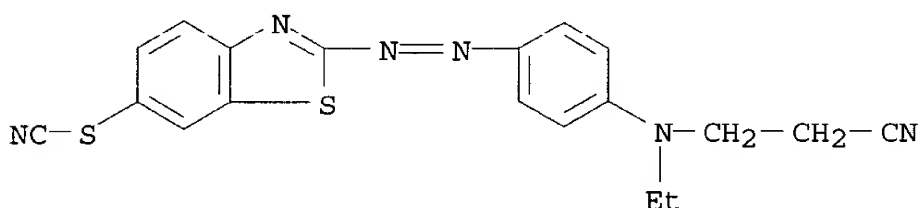
RN 110260-33-8 HCA

CN Thiocyanic acid, 2-[(4-amino-2-methylphenyl)azo]-6-benzothiazolyl ester (9CI) (CA INDEX NAME)



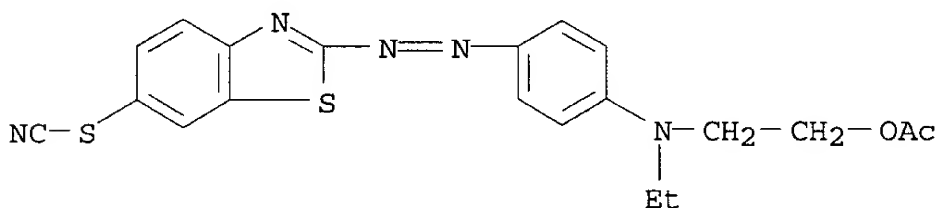
RN 110260-34-9 HCA

CN Thiocyanic acid, 2-[[4-[(2-cyanoethyl)ethylamino]phenyl]azo]-6-benzothiazolyl ester (9CI) (CA INDEX NAME)



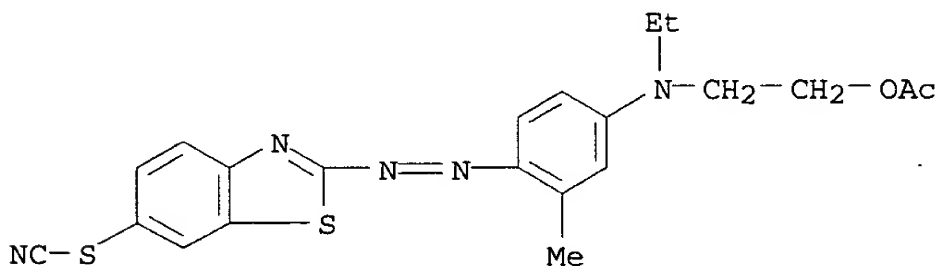
RN 110260-35-0 HCA

CN Thiocyanic acid, 2-[[4-[[2-(acetyloxy)ethyl]ethylamino]phenyl]azo]-6-benzothiazolyl ester (9CI) (CA INDEX NAME)



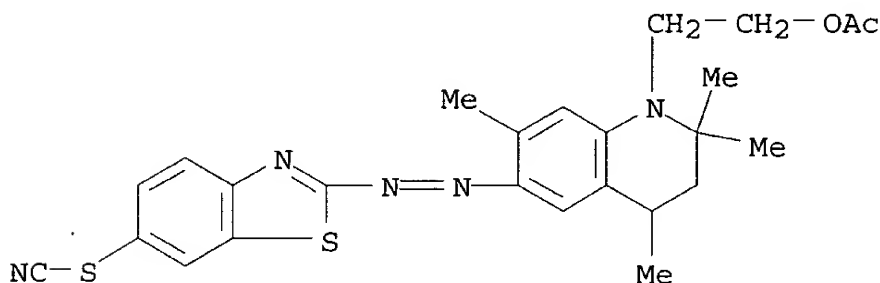
RN 110260-36-1 HCA

CN Thiocyanic acid, 2-[[4-[[2-(acetyloxy)ethyl]ethylamino]-2-methylphenyl]azo]-6-Benzothiazolyl ester (9CI) (CA INDEX NAME)



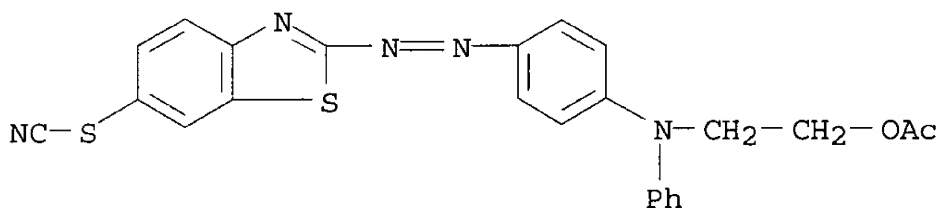
RN 110260-37-2 HCA

CN Thiocyanic acid, 2-[[1-[2-(acetyloxy)ethyl]-1,2,3,4-tetrahydro-2,2,4,7-tetramethyl-6-quinolinyl]azo]-6-benzothiazolyl ester (9CI)  
(CA INDEX NAME)



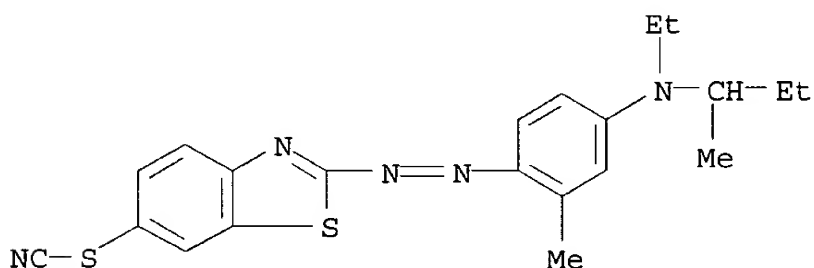
RN 110260-38-3 HCA

CN Thiocyanic acid, 2-[[4-[[2-(acetyloxy)ethyl]phenylamino]phenyl]azo]-6-benzothiazolyl ester (9CI) (CA INDEX NAME)



RN 110260-39-4 HCA

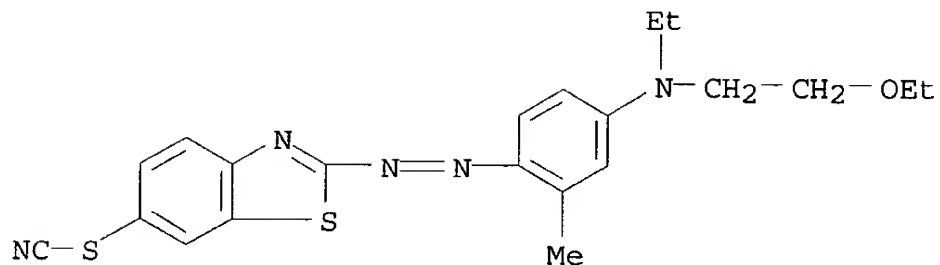
CN Thiocyanic acid, 2-[[4-[ethyl(1-methylpropyl)amino]-2-methylphenyl]azo]-6-benzothiazolyl ester (9CI) (CA INDEX NAME)



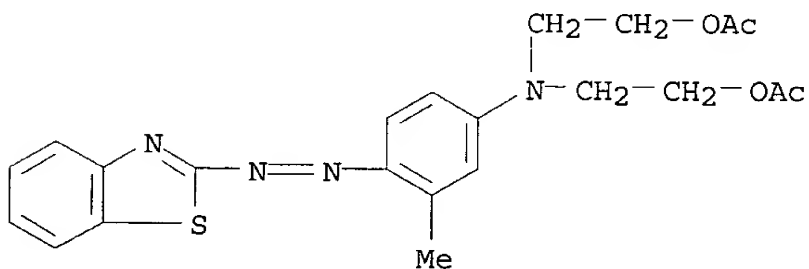
RN 110260-40-7 HCA

CN Thiocyanic acid, 2-[[4-[(2-ethoxyethyl)ethylamino]-2-methylphenyl]azo]-6-benzothiazolyl ester (9CI) (CA INDEX NAME)

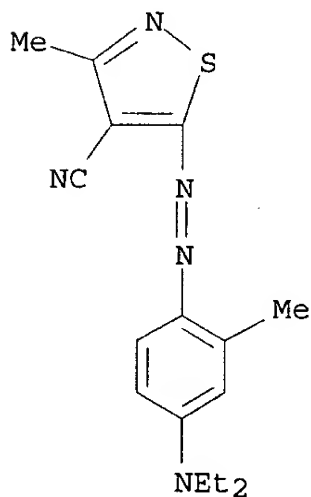




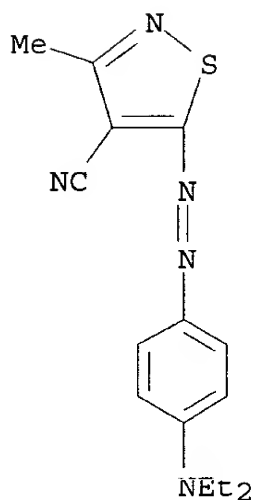
RN 110260-41-8 HCA  
 CN Ethanol, 2,2'-[[4-(2-benzothiazolylazo)-3-methylphenyl]imino]bis-,  
 diacetate (ester) (9CI) (CA INDEX NAME)



RN 110260-42-9 HCA  
 CN 4-Isothiazolecarbonitrile, 5-[[4-(diethylamino)-2-methylphenyl]azo]-  
 3-methyl- (9CI) (CA INDEX NAME)

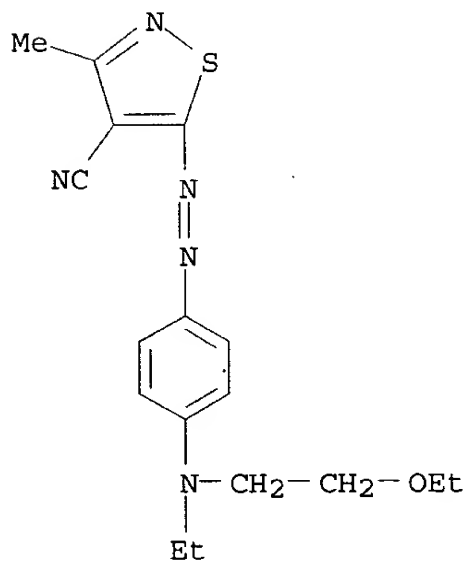


RN 110260-43-0 HCA  
 CN 4-Isothiazolecarbonitrile, 5-[[4-(diethylamino)phenyl]azo]-3-methyl-  
 (9CI) (CA INDEX NAME)



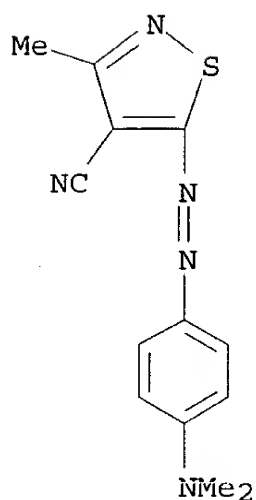
RN 110260-44-1 HCA

CN 4-Isouthiazolecarbonitrile, 5-[[4-[(2-ethoxyethyl)ethylamino]phenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)

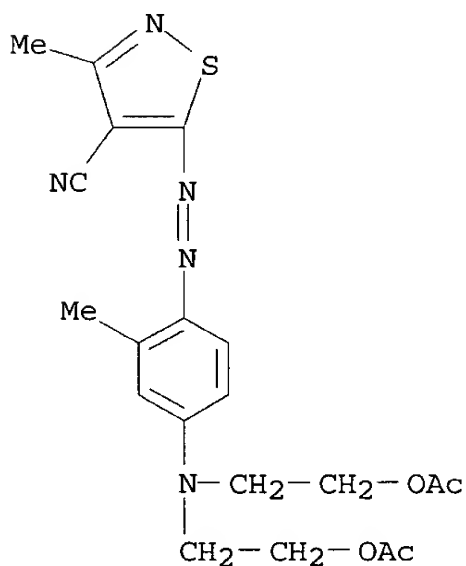


RN 110260-45-2 HCA

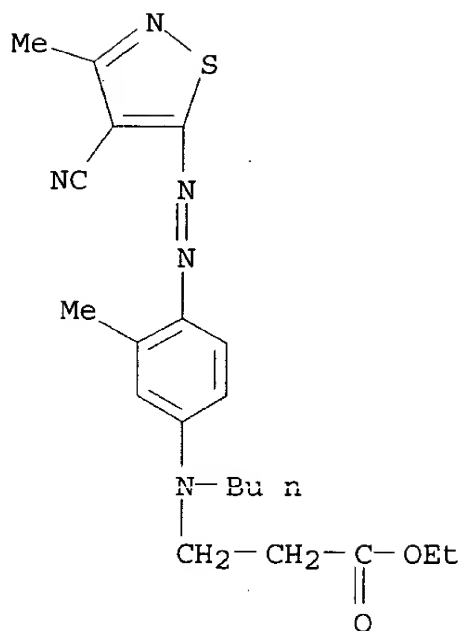
CN 4-Isouthiazolecarbonitrile, 5-[[4-(dimethylamino)phenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)



RN 110260-46-3 HCA  
 CN 4-Isothiazolecarbonitrile, 5-[[4-[bis[2-(acetyloxy)ethyl]amino]-2-methylphenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)

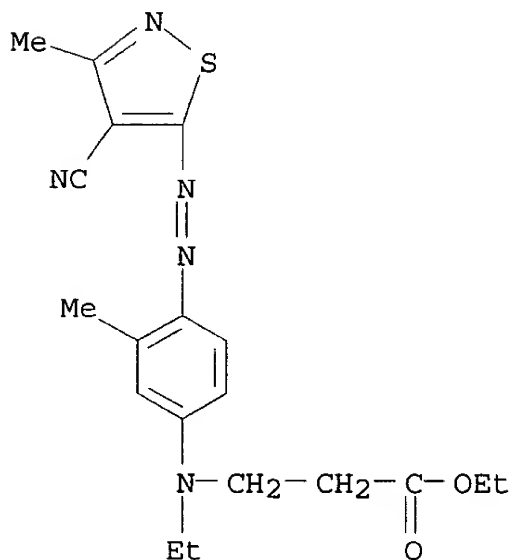


RN 110260-47-4 HCA  
 CN .beta.-Alanine, N-butyl-N-[4-[(4-cyano-3-methyl-5-isothiazolyl)azo]-3-methylphenyl]-, ethyl ester (9CI) (CA INDEX NAME)



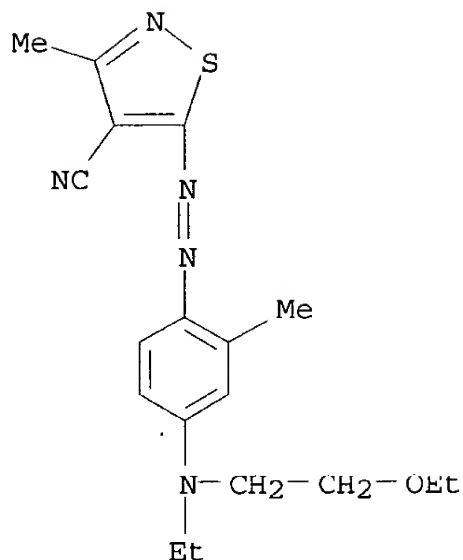
RN 110260-48-5 HCA

CN .beta.-Alanine, N-[4-[(4-cyano-3-methyl-5-isothiazolyl)azo]-3-methylphenyl]-N-ethyl-, ethyl ester (9CI) (CA INDEX NAME)



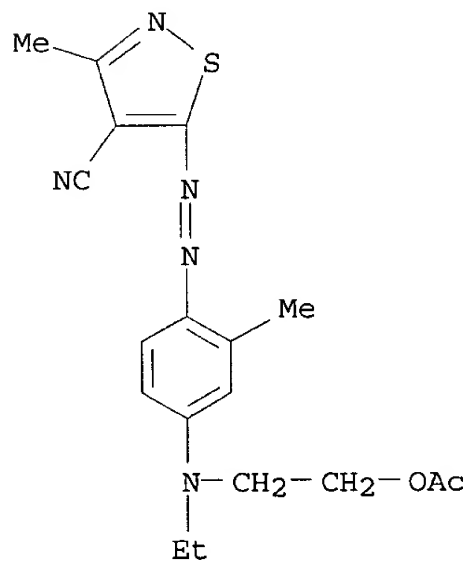
RN 110260-49-6 HCA

CN 4-Isouthiazolecarbonitrile, 5-[[4-[(2-ethoxyethyl)ethylamino]-2-methylphenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)



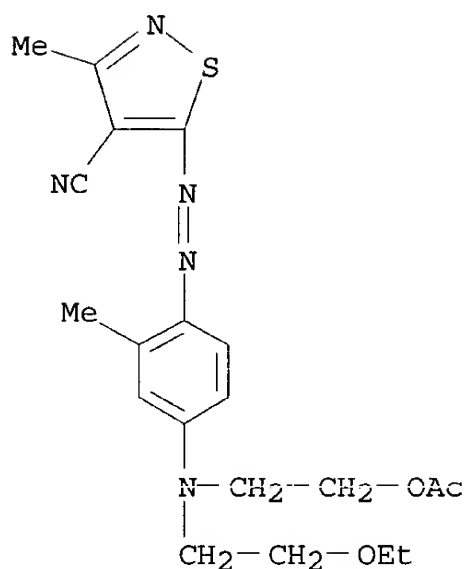
RN 110260-50-9 HCA

4-Isothiazolecarbonitrile, 5-[[4-[[2-(acetyloxy)ethyl]ethylamino]-2-methylphenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)



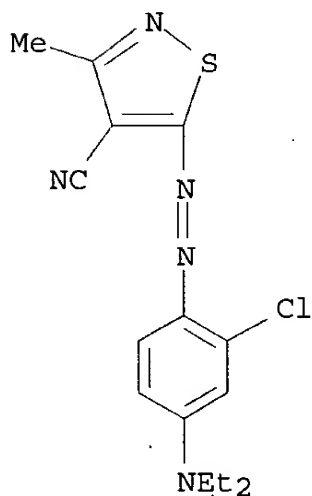
RN 110260-51-0 HCA

RN	110230-31-9	REA
CN	4-Isothiazolecarbonitrile, 5-[[4-[[2-(acetyloxy)ethyl](2-ethoxyethyl)amino]-2-methylphenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)	



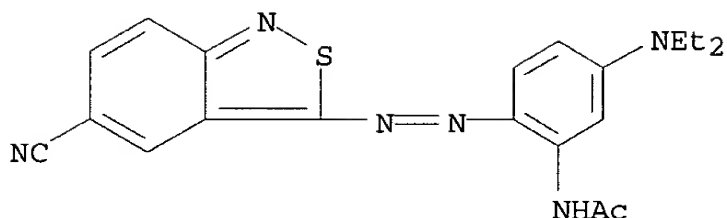
RN 110260-52-1 HCA

CN 4-Isothiazolecarbonitrile, 5-[[2-chloro-4-(diethylamino)phenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)

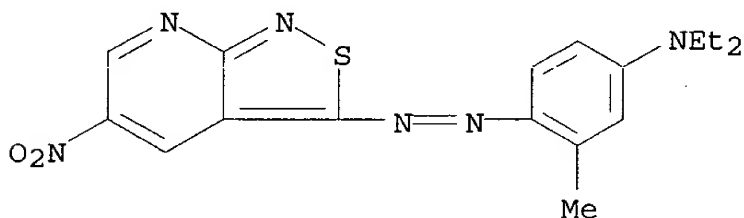


RN 110260-53-2 HCA

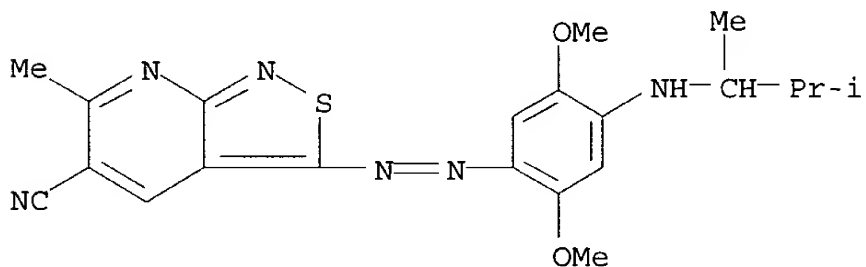
CN Acetamide, N-[2-[(5-cyano-2,1-benzisothiazol-3-yl)azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



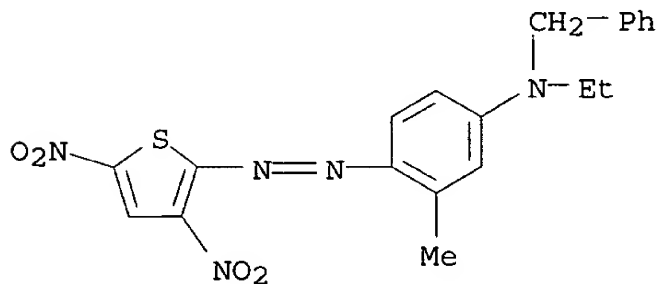
RN 110260-54-3 HCA  
 CN Benzenamine, N,N-diethyl-3-methyl-4-[(5-nitroisothiazolo[3,4-b]pyridin-3-yl)azo]- (9CI) (CA INDEX NAME)



RN 110260-55-4 HCA  
 CN Isothiazolo[3,4-b]pyridine-5-carbonitrile, 3-[[4-[(1,2-dimethylpropyl)amino]-2,5-dimethoxyphenyl]azo]-6-methyl- (9CI) (CA INDEX NAME)

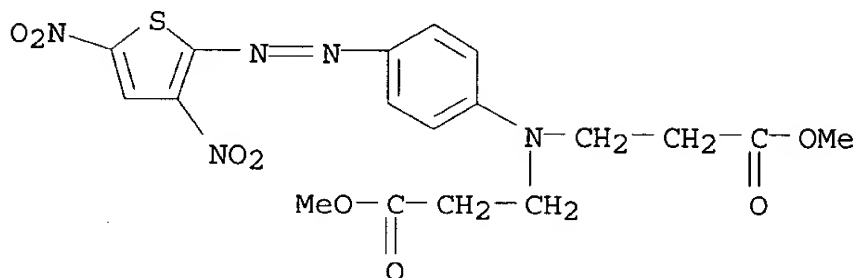


RN 110260-56-5 HCA  
 CN Benzenemethanamine, N-[4-[(3,5-dinitro-2-thienyl)azo]-3-methylphenyl]-N-ethyl- (9CI) (CA INDEX NAME)



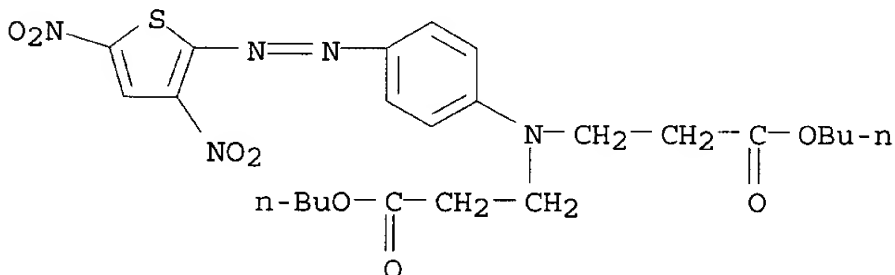
RN 110260-57-6 HCA

CN .beta.-Alanine, N-[4-[(3,5-dinitro-2-thienyl)azo]phenyl]-N-(3-methoxy-3-oxopropyl)-, methyl ester (9CI) (CA INDEX NAME)



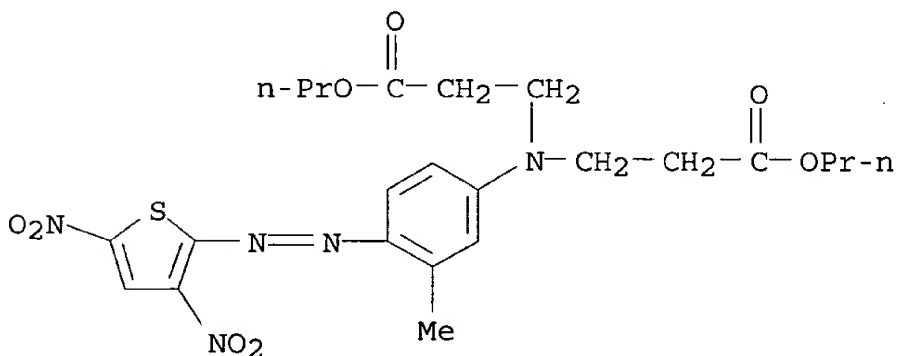
RN 110260-58-7 HCA

CN .beta.-Alanine, N-(3-butoxy-3-oxopropyl)-N-[4-[(3,5-dinitro-2-thienyl)azo]phenyl]-, butyl ester (9CI) (CA INDEX NAME)



RN 110260-59-8 HCA

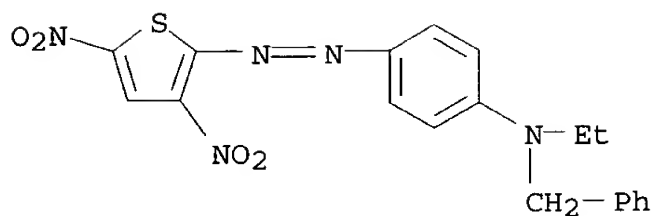
CN .beta.-Alanine, N-[4-[(3,5-dinitro-2-thienyl)azo]-3-methylphenyl]-N-(3-oxo-3-propoxypropyl)-, propyl ester (9CI) (CA INDEX NAME)



RN 110260-60-1 HCA

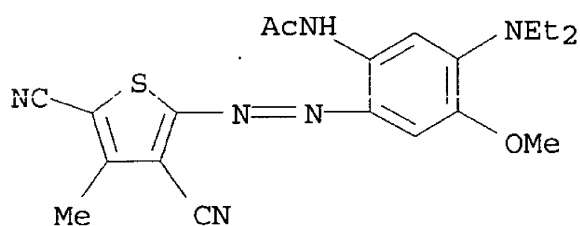
CN Benzenemethanamine, N-[4-[(3,5-dinitro-2-thienyl)azo]phenyl]-N-ethyl- (9CI) (CA INDEX NAME)





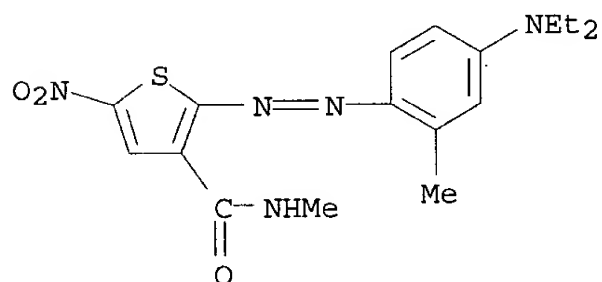
RN 110260-61-2 HCA

CN Acetamide, N-[2-[(3,5-dicyano-4-methyl-2-thienyl)azo]-5-(diethylamino)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)



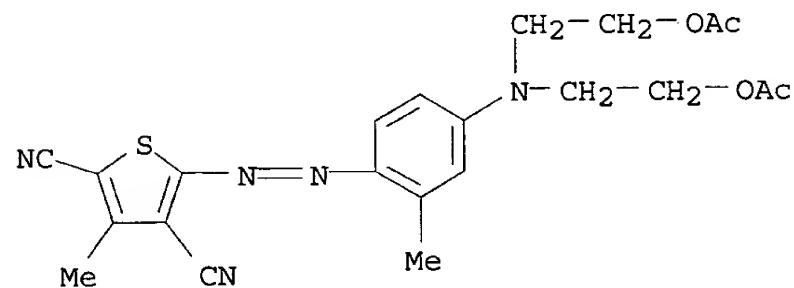
RN 110260-62-3 HCA

CN 3-Thiophenecarboxamide, 2-[[4-(diethylamino)-2-methylphenyl]azo]-N-methyl-5-nitro- (9CI) (CA INDEX NAME)



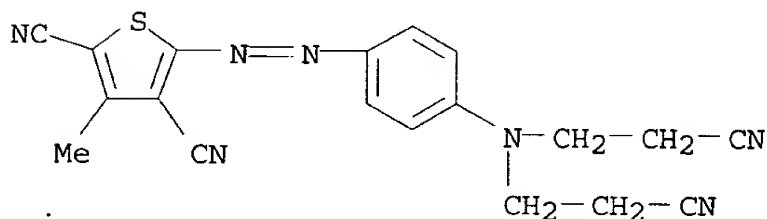
RN 110260-63-4 HCA

CN 2,4-Thiophenedicarbonitrile, 5-[[4-[bis[2-(acetyloxy)ethyl]amino]-2-methylphenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)



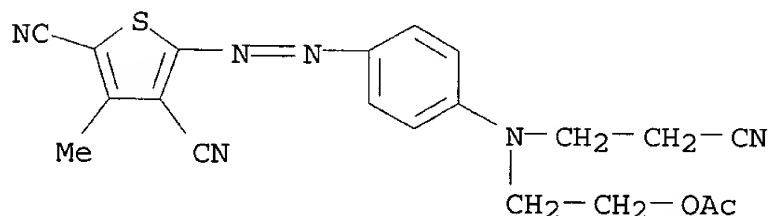
RN 110260-64-5 HCA

CN 2,4-Thiophenedicarbonitrile, 5-[[4-[bis(2-cyanoethyl)amino]phenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)



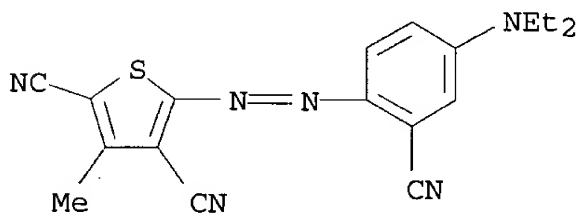
RN 110260-65-6 HCA

CN 2,4-Thiophenedicarbonitrile, 5-[[4-[[2-(acetyloxy)ethyl](2-cyanoethyl)amino]phenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)



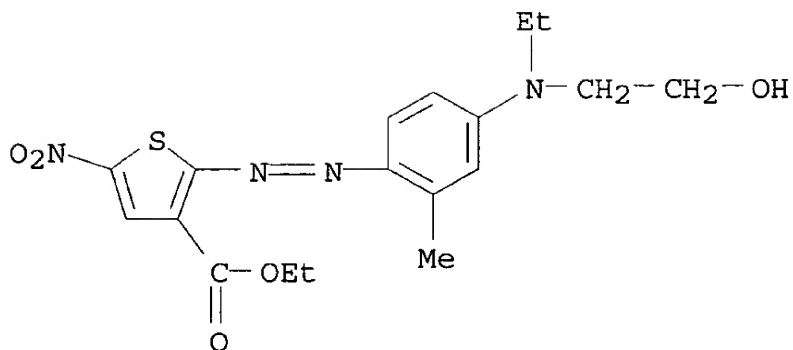
RN 110260-66-7 HCA

CN 2,4-Thiophenedicarbonitrile, 5-[[2-cyano-4-(diethylamino)phenyl]azo]-3-methyl- (9CI) (CA INDEX NAME)



RN 110282-40-1 HCA

CN 3-Thiophenecarboxylic acid, 2-[[4-[ethyl(2-hydroxyethyl)amino]-2-methylphenyl]azo]-5-nitro-, ethyl ester (9CI) (CA INDEX NAME)



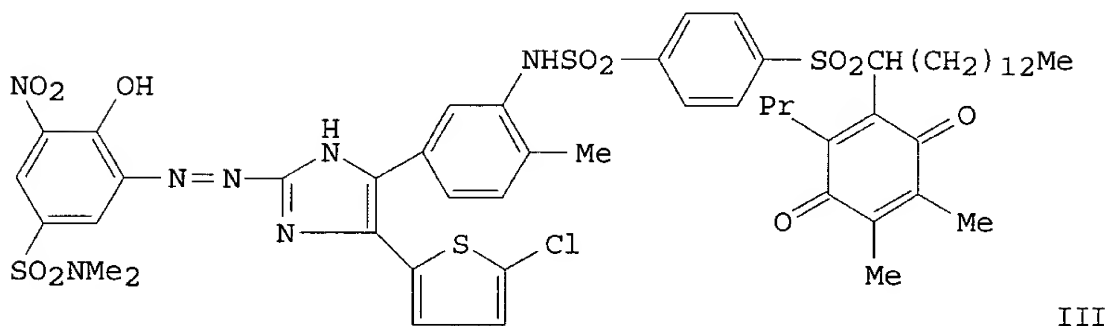
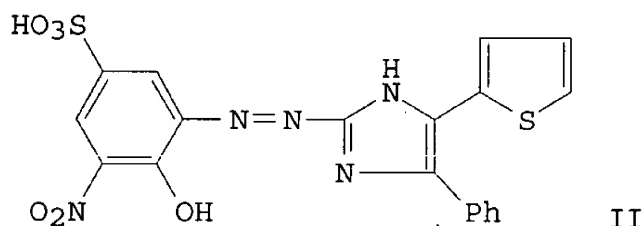
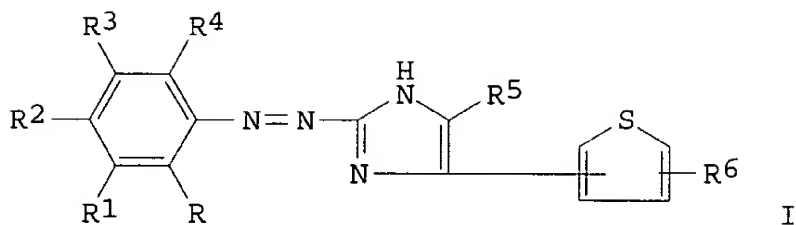
IC ICM B41M005-26  
ICS B41M005-22; C09D011-02  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 41, 42

IT Dyes, azo  
(thermal-transfer recording inks contg.)

IT 58979-46-7 68110-29-2 70693-64-0  
70865-21-3 72537-33-8 76265-99-1  
78473-28-6 88779-60-6 88779-71-9  
88779-92-4 102301-05-3 102301-07-5  
110260-18-9 110260-19-0 110260-20-3  
110260-21-4 110260-22-5 110260-23-6  
110260-24-7 110260-25-8 110260-26-9  
110260-27-0 110260-28-1 110260-29-2  
110260-30-5 110260-31-6 110260-32-7  
110260-33-8 110260-34-9 110260-35-0  
110260-36-1 110260-37-2 110260-38-3  
110260-39-4 110260-40-7 110260-41-8  
110260-42-9 110260-43-0 110260-44-1  
110260-45-2 110260-46-3 110260-47-4  
110260-48-5 110260-49-6 110260-50-9  
110260-51-0 110260-52-1 110260-53-2  
110260-54-3 110260-55-4 110260-56-5  
110260-57-6 110260-58-7 110260-59-8  
110260-60-1 110260-61-2 110260-62-3  
110260-63-4 110260-64-5 110260-65-6  
110260-66-7 110282-40-1  
(dyes, for thermal transfer inks)

L42 ANSWER 7 OF 10 HCA COPYRIGHT 2003 ACS  
102:26397 Chelatable azo dyes and their use in image production.  
Schenk, Guenther; Bergthaller, Peter; Heidenreich, Holger; Wolfrum,  
Gerhard (Agfa-Gevaert A.-G. , Fed. Rep. Ger.). Ger. Offen. DE  
3312500 A1 19841011, 63 pp. (German). CODEN: GWXXBX. APPLICATION:  
DE 1983-3312500 19830407.

GI

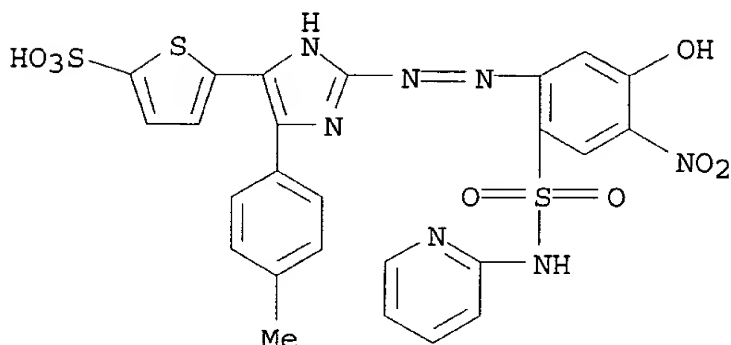


AB The title dyes, which give lightfast blue-green complexes when treated with Cu or Ni ions, are represented by general structure I, where R is a group capable of forming a 5-membered chelate ring; R1-R4 = H, F, Cl, NO<sub>2</sub>, alkyl, acylamino, etc., or R3R4 together form a 1,3-oxathiolS,S-dioxide ring; R5 = aryl, 2-thienyl, or 3-thienyl; and R6 = H, halogen, or alkyl. I can be used directly, e.g. in inks for ink-jet processes, or, when bound by means of an alkali-cleavable bond to a carrier residue contg. .gtoreq.1 ballast group, in diffusion-transfer color photog. film. Typical dyes include II [93972-44-2], prep'd. by diazotizing 3,4,5-H<sub>2</sub>N(HO)(O<sub>2</sub>N)C<sub>6</sub>H<sub>2</sub>SO<sub>3</sub>H [96-93-5] and coupling with 5-phenyl-4-(2-thienyl)imidazole [93972-55-5], and III [94008-73-8], prep'd. by reaction of 6-[1-[4-(chlorosulfonyl)phenylsulfonyl]tetradecyl]-2,3-dimethyl-5-propyl-1,4-benzoquinone [93972-61-3] with 4-(3-amino-p-tolyl)-5-(5-chloro-2-thienyl)imidazole [93972-62-4] followed by coupling with diazotized 3,4,5-H<sub>2</sub>N(HO)(O<sub>2</sub>N)C<sub>6</sub>H<sub>2</sub>SO<sub>2</sub>NMe<sub>2</sub> [93972-45-3].

IT 93972-39-5

(lightfastness of, on image-receiving sheet)

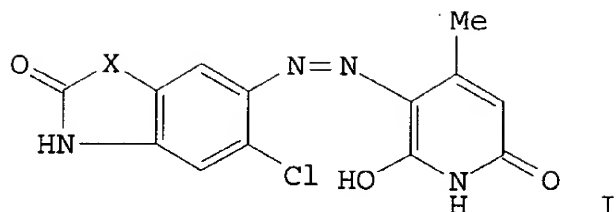
RN 93972-39-5 HCA  
 CN 2-Thiophenesulfonic acid, 5-[2-[[5-hydroxy-4-nitro-2-[(2-pyridinylamino)sulfonyl]phenyl]azo]-5-(4-methylphenyl)-1H-imidazol-4-yl]- (9CI) (CA INDEX NAME)



IC C09B029-36; C09B045-14; C09D011-16; G03C005-54; G03C007-26  
 CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and  
 Photographic Sensitizers)  
 Section cross-reference(s): 74  
 ST azo dye chelatable; thienylimidazole azo dye;  
**imidazolylthiophene** azo dye; metalizable azo dye; copper  
 complex azo dye; nickel complex azo dye; diffusion transfer photog  
 dye; **ink jet printing** dye  
 IT Dyes, azo  
 ((arylazo)thienylimidazole derivs., lightfast blue-green metal  
 complex-forming, for **ink-jet** processes)  
 IT **Inks**  
 (**jet-printing**, metalizable dyes for,  
 (arylazo)thienylimidazole derivs. as)  
 IT 93972-44-2  
 (dye, metalizable, for **ink-jet** processes)  
 IT 93972-47-5 93972-48-6 93972-49-7 93972-50-0 93972-51-1  
 93972-52-2 93972-53-3 93972-54-4  
 (dyes, metalizable, for **ink-jet** processes)  
 IT 93972-32-8 93972-33-9 93972-34-0 93972-35-1 93972-36-2  
 93972-37-3 93972-38-4 **93972-39-5** 93972-40-8  
 93972-41-9 93972-42-0 93972-43-1 93972-72-6 93972-73-7  
 93972-74-8 93972-75-9  
 (lightfastness of, on image-receiving sheet)

L42 ANSWER 8 OF 10 HCA COPYRIGHT 2003 ACS  
 85:161876 Azo pigments. Hari, Stefan; Mueller, Rolf; Mory, Rudolf  
 (Ciba-Geigy A.-G., Switz.). Ger. Offen. DE 2606506 19760902, 17 pp.  
 (German). CODEN: GWXXBX. APPLICATION: DE 1976-2606506 19760218.

GI



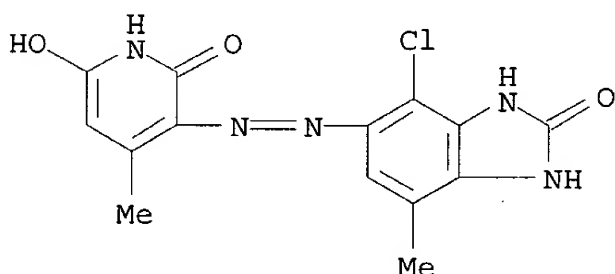
AB Two azo pigments (I, X = NH, CH:Me) were prepd. and used to color PVC [9002-86-2], polyesters, and printing **inks** fast orange to red shades.. Thus, 5-amino-6-chlorobenzimidazolone [60713-77-1] was diazotized and coupled with 4-methyl-6-hydroxy-2-pyridone [4664-16-8] to give I (X = NH) [60713-80-6]. The other I was similarly prepd.

IT 60713-79-3

(pigment, for PVC)

RN 60713-79-3 HCA

CN 2H-Benzimidazol-2-one, 4-chloro-5-[(1,2-dihydro-6-hydroxy-4-methyl-2-oxo-3-pyridinyl)azo]-1,3-dihydro-7-methyl- (9CI) (CA INDEX NAME)

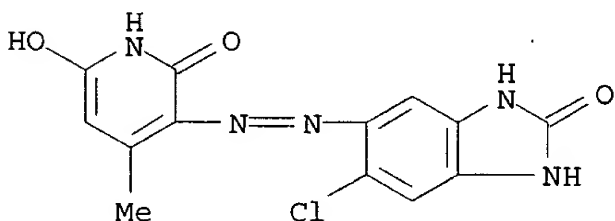


IT 60713-80-6

(pigment, for PVC, polyesters and **inks**)

RN 60713-80-6 HCA

CN 2H-Benzimidazol-2-one, 5-chloro-6-[(1,2-dihydro-6-hydroxy-4-methyl-2-oxo-3-pyridinyl)azo]-1,3-dihydro- (9CI) (CA INDEX NAME)



IC C09B039-00

CC 40-4 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

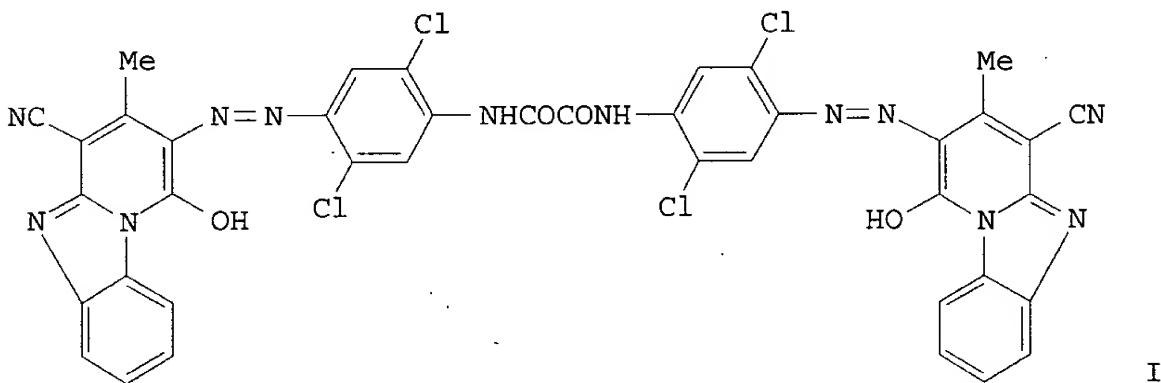
ST **benzimidazolylazopyridone** pigment; quinolinylazopyridone

- IT pigment; pyridone azo pigment; PVC pigment; polyester pigment  
 Pigments  
 (hydroxymethylpyridone heterocyclic azo derivs., for PVC, polyesters and **inks**)  
 IT Polyesters, uses and miscellaneous  
 (pigment for, [(chlorooxobenzimidazolyl)azol]hydroxymethylpyridone as)  
 IT 9002-86-2  
 (pigment for, [(chlorooxobenzimidazolyl)azol]hydroxymethylpyridone as)  
 IT 60713-79-3  
 (pigment, for PVC)  
 IT 60713-80-6  
 (pigment, for PVC, polyesters and **inks**)

L42 ANSWER 9 OF 10 HCA COPYRIGHT 2003 ACS

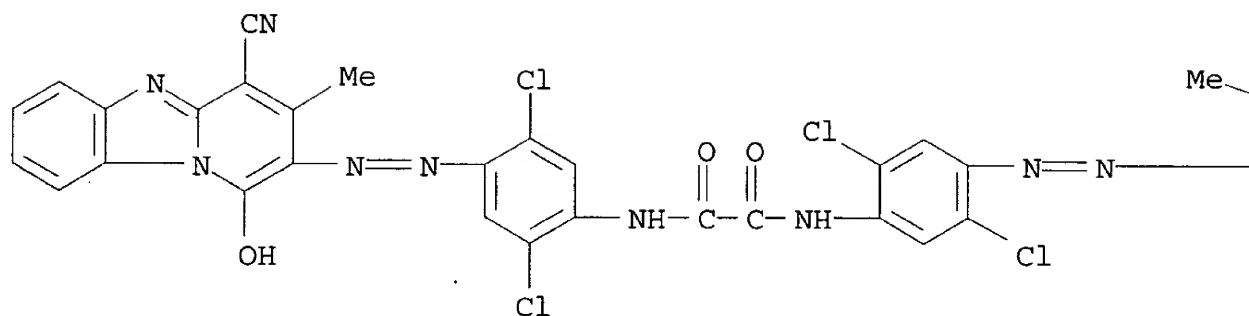
85:22749 Disazo pigments. Mueller, Willy (Ciba-Geigy A.-G., Switz.).  
 Ger. Offen. DE 2542408 19760415, 32 pp. (German). CODEN: GWXXBX.  
 APPLICATION: DE 1975-2542408 19750923.

GI

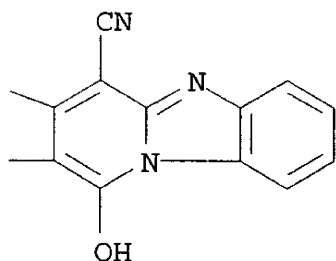


- AB Disazo pigment [59388-45-3], coloring PVC [9002-86-2], **inks**, and coatings a fast red shade, was prepd. by coupling tetrazotized 2,5,4-Cl<sub>2</sub>(H<sub>2</sub>N)C<sub>6</sub>H<sub>2</sub>NHC(=O)CONHC<sub>6</sub>H<sub>2</sub>(NH<sub>2</sub>)Cl<sub>2</sub>-4,2,5 [33052-31-2] with 4-cyano-3-methyl-1-hydroxypyrido[1,2-a]benzimidazole [34940-35-7].  
 IT 59388-45-3  
 (pigment, for PVC, printing **inks** and coatings, prepn. of)  
 RN 59388-45-3 HCA  
 CN Ethanediame, N,N'-bis[2,5-dichloro-4-[(4-cyano-1-hydroxy-3-methylpyrido[1,2-a]benzimidazol-2-yl)azo]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC C09B  
 CC 40-4 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)  
 ST oxamide disazo pyridobenzimidazole pigment; azo oxamide  
 pyridobenzimidazole pigment; PVC pigment; printing ink  
 pigment  
 IT Pigments  
 (bis(pyridobenzimidazolylazo)oxalyldiimide deriv., PVC,  
 printing inks and coatings)  
 IT 9002-86-2  
 (pigment for, bis(pyridobenzimidazolyl)oxalyldiimide)  
 IT 59388-45-3  
 (pigment, for PVC, printing inks and coatings, prepn.  
 of)

L42 ANSWER 10 OF 10 HCA COPYRIGHT 2003 ACS

84:6479 Azo dyes. Roueche, Armand; L'Eplattenier, Francois (Ciba-Geigy  
 A.-G., Switz.). Ger. Offen. DE 2510373 19750918, 24 pp. (German).  
 CODEN: GWXXBX. APPLICATION: DE 1975-2510373 19750310.

GI For diagram(s), see printed CA Issue.

AB Azo pigments (I, R = 2-oxo-5-benzimidazolyl; 1,2-dihydro-2-oxo-4,8-  
 dimethyl-7-quinolyl) were prepd. and used to color PVC  
 [9002-86-2], inks, and melamine resin enamels red to  
 bordeaux-red shades. Thus, 5-aminobenzimidazolone [95-23-8] was  
 diazotized and coupled with 3-cyano-4-methyl-1,2-  
 [1',2']benz[4',5']imidazolo-6-hydroxypyridine [34940-35-7] to give I



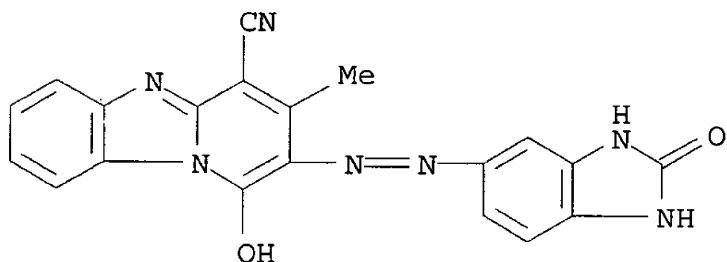
(R = 2-oxo-5-benzimidazolynyl) [57303-73-8], bordeaux-red in PVC.

IT 57303-73-8

(pigment, for **inks**, melamine resin and PVC)

RN 57303-73-8 HCA

CN Pyrido[1,2-a]benzimidazole-4-carbonitrile, 2-[(2,3-dihydro-2-oxo-1H-benzimidazol-5-yl)azo]-1-hydroxy-3-methyl- (9CI) (CA INDEX NAME)



IC C09B

CC 40-4 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST benzimidazolopyridine azo pigment; PVC azo pigment; printing **ink** pigment; melamine resin enamel pigment; pyridobenzimidazole azo pigment

IT Pigments

(cyanohydroxymethylbenzimidazolopyridine azo derivs., for enamels, **inks** and PVC)

IT **Inks**

(printing, pigments for, cyanohydroxymethyl[(**oxobenzimidazolyl**)azo]benzimidazolopyridine as)

IT 57303-73-8

(pigment, for **inks**, melamine resin and PVC)

IT 57303-72-7

(pigment, for printing **inks**)

=> d l43 1-11 cbib abs hitstr hitind

L43 ANSWER 1 OF 11 HCA COPYRIGHT 2003 ACS

138:403164 Dye **inks** for **ink-jets**,

cartridges, **ink-jet printing** method, and **ink-jet printing** images. Asatake,

Atsushi; Nakamura, Masaki; Kawashima, Yasuhiko (Konica Co., Japan). Jpn. Kokai Tokkyo Koho JP 2003147239 A2 20030521, 18 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-347294 20011113.

AB Title **inks** comprise .gtoreq.1 colored particles selected from colored particles comprising dye-contg. resins, colored particles comprising dye-coated resins, and dye-contg. resin-coated colored particles and contain fatty acids and fatty acid salts .ltoreq.0.5%. Thus, BL 10 polyvinyl butyral 10.0, magenta dye 10.0, and Et acetate 150 g were stirred, 1.2 g sodium lauryl sulfate and a surfactant were added therein to give a colored particle dispersion with av. diam. 82 nm and zeta potential -53 mV, which was mixed with myristic

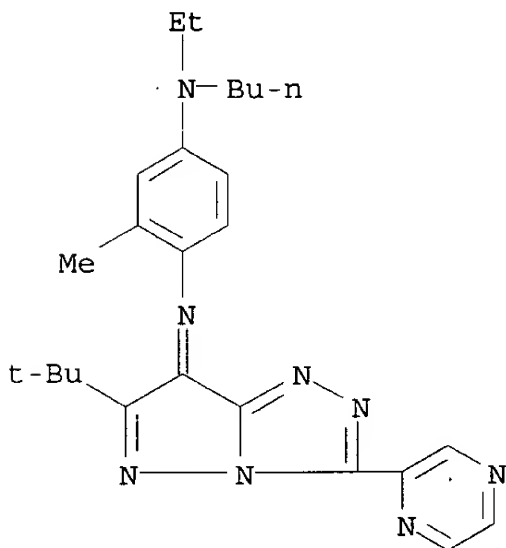
acid 0.08, ethylene glycol 10, **glycerin** 20, Olfine E 1010 nonionic surfactant 0.3, and Takelac W 6060 polyurethane latex 1.0%, and ferric ion 0.8 ppm to give an ink with pH 9.2, surface tension 35.7 mN/m, and good printing image.

IT 323184-23-2

(coated with polymer; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)

RN 323184-23-2 HCA

CN 1,4-Benzenediamine, N4-butyl-N1-[6-(1,1-dimethylethyl)-3-pyrazinyl-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]-N4-ethyl-2-methyl- (9CI)  
(CA INDEX NAME)



IC ICM C09D011-00

ICS B41J002-01; B41M005-00

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 39

ST dye ink jet cartridge jet

**printing printing** image; polyvinyl butyral

modified magenta dye surfactant ink compn

IT Nitrile rubber, uses

(Nipol SX 1503; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)

IT Polyvinyl butyrals

(S-Lec BL 10, dyes coated with; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)

IT Containers

(cartridges; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)

IT Surfactants

(cationic; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)

IT Cations

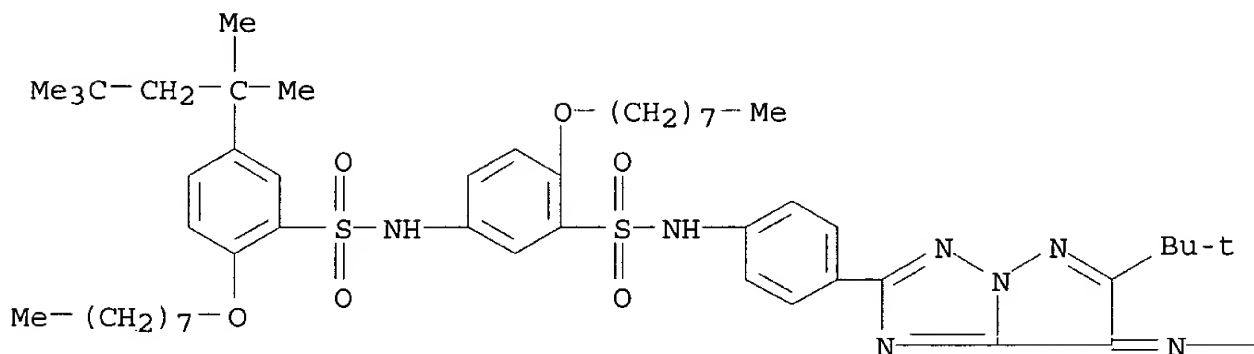
**Ink-jet printing**

- (dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Fatty acids, uses  
(dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Inks  
(jet-printing; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Polyurethanes, uses  
(latex; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Polysiloxanes, uses  
(macromers, polymers with acrylic monomers, polyoxyalkylene acrylates, and styrene, dye coated with; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Surfactants  
(nonionic; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Fatty acids, uses  
(salts; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Dyes  
(surface coated with polymers; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Polyoxyalkylenes, uses  
(surfactants; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT Polymers, uses  
(water-sol.; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT 161407-47-2 162208-01-7 319459-38-6 321392-21-6  
323184-23-2  
(coated with polymer; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)
- IT 79-41-4D, Methacrylic acid, polymers with acrylic monomers, polyoxyalkylene acrylates, styrene, and silicone macromers, salts  
100-42-5D, Styrene, polymers with acrylic monomers, polyoxyalkylene acrylates, methacrylic acid, and silicone macromers, salts  
142-90-5D, Lauryl methacrylate, polymers with acrylic monomers, polyoxyalkylene acrylates, methacrylic acid, and silicone macromers, salts  
818-61-1D, 2-Hydroxyethyl acrylate, polymers with acrylic monomers, polyoxyalkylene acrylates, methacrylic acid, and silicone macromers, salts  
9011-14-7, Polymethyl methacrylate 9056-77-3D, Polyethylene glycol methacrylate, polymers with acrylic monomers, styrene, methacrylic acid, and silicone macromers, salts  
25249-16-5, 2-Hydroxyethyl methacrylate homopolymer 26010-51-5, 2-Hydroxyethyl methacrylate-styrene copolymer 26794-61-6, Butyl methacrylate-ethylene glycol dimethacrylate copolymer 28134-84-1, 2-Ethylhexyl acrylate-2-Hydroxyethyl methacrylate-styrene copolymer  
(dye coated with; dye inks contg. fatty acids and/or fatty acid salts for ink-jets)

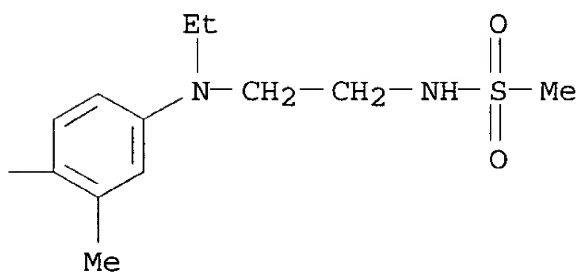
- IT 57-10-3, Palmitic acid, uses 57-11-4, Stearic acid, uses 112-80-1, Oleic acid, uses 143-18-0, Potassium oleate 544-63-8, Myristic acid, uses 2624-31-9, Potassium palmitate 9002-89-5, PVA 203 14127-61-8, Calcium ion, uses 20074-52-6, Ferric ion, uses 22537-23-1, Aluminum ion, uses 326794-19-8, Takelac W 6060 (dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)
- IT 290-87-9D, 1,3,5-Triazine, derivs. (dye, coated with polymer; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)
- IT 9003-18-3 (nitrile rubber, Nipol SX 1503; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)
- IT 9014-85-1, Olfine E 1010 (nonionic surfactant; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)
- IT 4197-25-5, Oil Black 860 500226-87-9, FS Yellow 1015 500226-88-0, FS Blue 1504 (surface coated with polymer; dye inks contg. fatty acids and/or fatty acid salts for **ink-jets**)
- L43 ANSWER 2 OF 11 HCA COPYRIGHT 2003 ACS
- 138:239502 Ink compositions containing hydrophobic pigments and **ink-jet printing** method. Takahashi, Osamu; Deguchi, Yasuaki; Ishii, Yoshio; Yabuki, Yoshiharu (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003073598 A2 20030312, 89 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-10361 20020118. PRIORITY: JP 2001-187295 20010620.
- AB Title compns. comprise colored fine particles with av. particle diam. 0.01-0.5  $\mu\text{m}$ , coeff. variance of particle size  $\leq 45\%$ , and sp. gr. 0.9-1.2, where the colored fine particles are prepd. by (i) emulsifying compns. comprising  $\geq 1$  hydrophobic pigments,  $\geq 1$  hydrophobic polymers,  $\geq 1$  high b.p. org. solvents with water soly.  $\leq 4$  g,  $\geq 1$  cosolvents having water soly.  $\leq 25$  g and b.p.  $\leq 200^\circ\text{C}$ , and aq. media and (ii) removing the cosolvents. Thus, magenta type hydrophobic pigment 8, alkyl ester type high b.p. org. solvent 7, styrene-Me methacrylate-sodium acrylate copolymer 9, and antibleaching agent 1.5 g, Et acetate 140 mL, and polyethylene glycol lauryl ether sodium sulfate 20 mL were mixed, pulverized, Et acetate was removed, diethylene glycol 140, **glycerin** 64, and Surfynol 465 7 g, and urea were added therein, and adjusted at pH 7 to give an ink compn. with av. vol. particle size of colored fine particle 62 nm, coeff. variance of particle size 28%, sp. gr. 1.06, and good storage stability.
- IT 358342-91-3 362497-25-4 501121-24-0 (pigment; ink compns. contg. hydrophobic pigments for **ink-jet printing**)
- RN 358342-91-3 HCA
- CN Benzenesulfonamide, N-[3-[[[4-[6-(1,1-dimethylethyl)-7-[[4-[ethyl[2-[(methylsulfonyl)amino]ethyl]amino]-2-methylphenyl]imino]-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-

(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI)  
(CA INDEX NAME)

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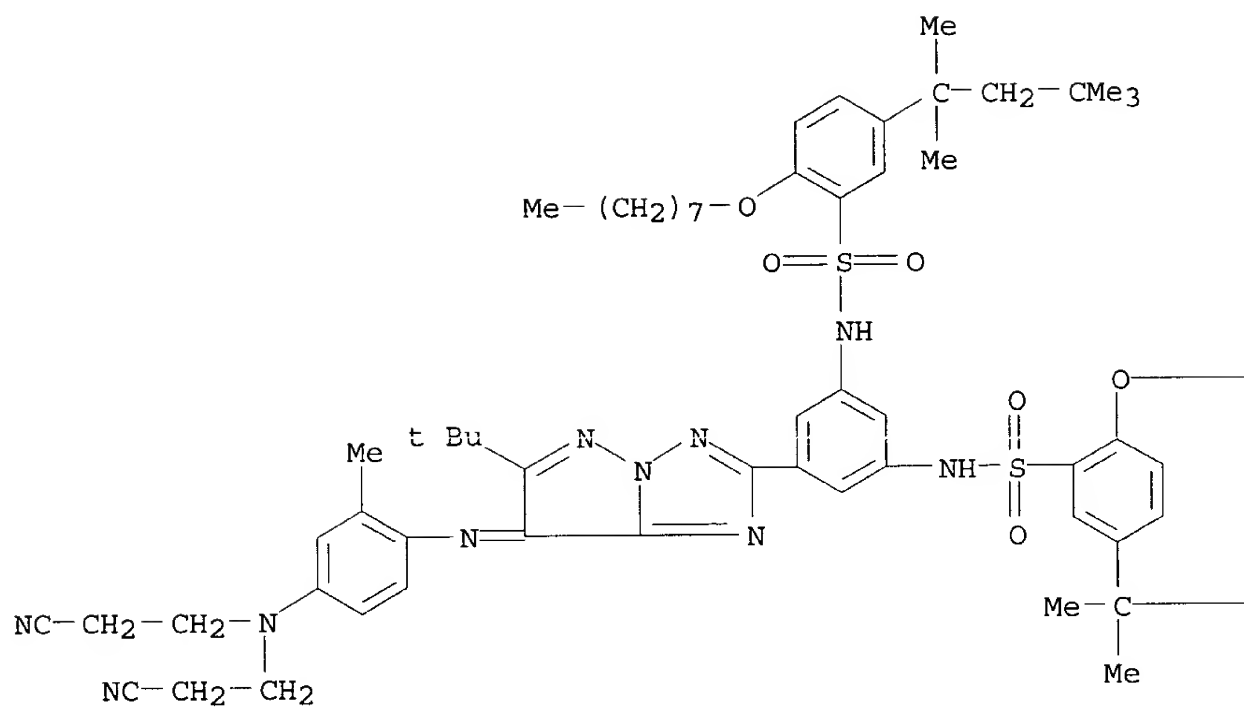


PAGE 1-B



RN 362497-25-4 HCA  
CN Benzenesulfonamide, N,N'-[5-[7-[[4-[bis(2-cyanoethyl)amino]-2-methylphenyl]imino]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]-1,3-phenylene]bis[2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI) (CA INDEX NAME)

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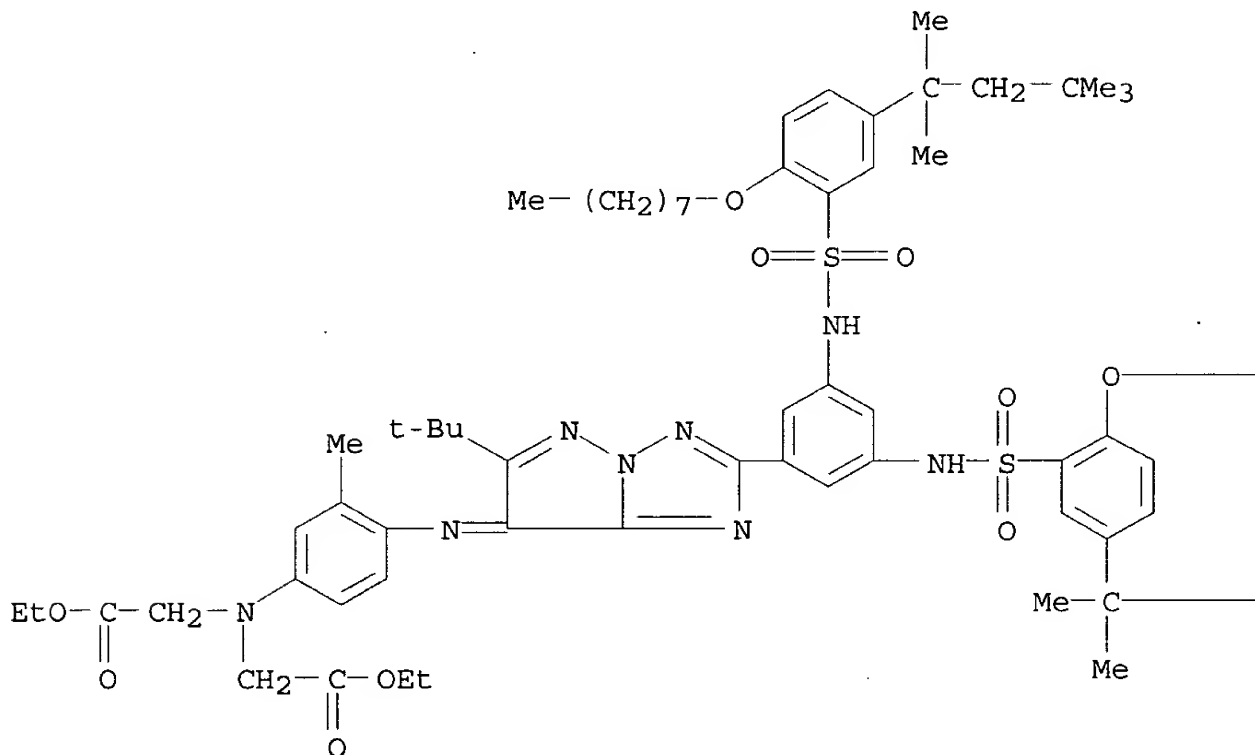
PAGE 1-B

— (CH<sub>2</sub>)<sub>7</sub>—Me—CH<sub>2</sub>—CMe<sub>3</sub>

RN 501121-24-0 HCA

CN Glycine, N-[4-[[2-[3,5-bis[[2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)phenyl]sulfonyl]amino]phenyl]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]-3-methylphenyl]-N-(2-ethoxy-2-oxoethyl)-, ethyl ester (9CI) (CA INDEX NAME)

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— (CH<sub>2</sub>)<sub>7</sub>—Me

— CH<sub>2</sub>— CMe<sub>3</sub>

IC ICM C09D011-00  
ICS B41J002-01; B41M005-00; C09B029-08; C09B029-42; C09B029-48;  
C09B047-20; C09B047-26; C09B055-00  
CC 42-12 (Coatings, Inks, and Related Products)  
ST ink compn hydrophobic pigment **jet printing**;  
magenta alkyl ester hydrophobic acrylic copolymer ethyl acetate  
compn  
IT Coating materials  
(for printing papers; ink compns. contg. hydrophobic pigments for  
**ink-jet printing**)  
IT Pigments, nonbiological  
(hydrophobic; ink compns. contg. hydrophobic pigments for  
**ink-jet printing**)  
IT Binders  
**Ink-jet printing**  
Inks  
(ink compns. contg. hydrophobic pigments for  
**ink-jet printing**)  
IT 109-60-4, Propyl acetate 141-78-6, Ethyl acetate, uses  
(cosolvent; ink compns. contg. hydrophobic pigments for  
**ink-jet printing**)  
IT 88-99-3D, 1,2-Benzenedicarboxylic acid, branched diheptyl ester  
122-62-3 528-44-9D, 1,2,4-Benzenetricarboxylic acid, triisodecanyl  
esters 26967-76-0 72386-53-9  
(high b.p. solvent; ink compns. contg. hydrophobic pigments for  
**ink-jet printing**)  
IT 9011-14-7, Methyl methacrylate homopolymer 25034-86-0, Methyl  
methacrylate-styrene copolymer 25085-39-6, Acrylic



acid-butadiene-styrene copolymer 25768-50-7, Cyclohexyl methacrylate homopolymer 28573-23-1, n-Butylacrylamide-tert-butylacrylate copolymer 86849-91-4, Methyl methacrylate-sodium acrylate-styrene copolymer

(ink compns. contg. hydrophobic pigments for **ink-jet printing**)

IT 67487-51-8P, Butyl acrylate-ethyl methacrylate-styrene copolymer  
188484-13-1P, 2-Chloroethyl acrylate-ethyl methacrylate copolymer  
(latex particle, coating material for printing media; ink compns. contg. hydrophobic pigments for **ink-jet printing**)

IT 346709-26-0 355841-69-9 **358342-91-3 362497-25-4**  
414909-46-9 414909-47-0 415684-04-7 445040-16-4  
**501121-24-0** 501121-25-1 501121-26-2 501121-27-3  
501330-41-2

(pigment; ink compns. contg. hydrophobic pigments for **ink-jet printing**)

L43 ANSWER 3 OF 11 HCA COPYRIGHT 2003 ACS

138:223087 Ink compositions with good printing images and image preservation and **ink-jet printing** method. Taguchi, Toshiki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003073591 A2 20030312, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-266015 20010903.

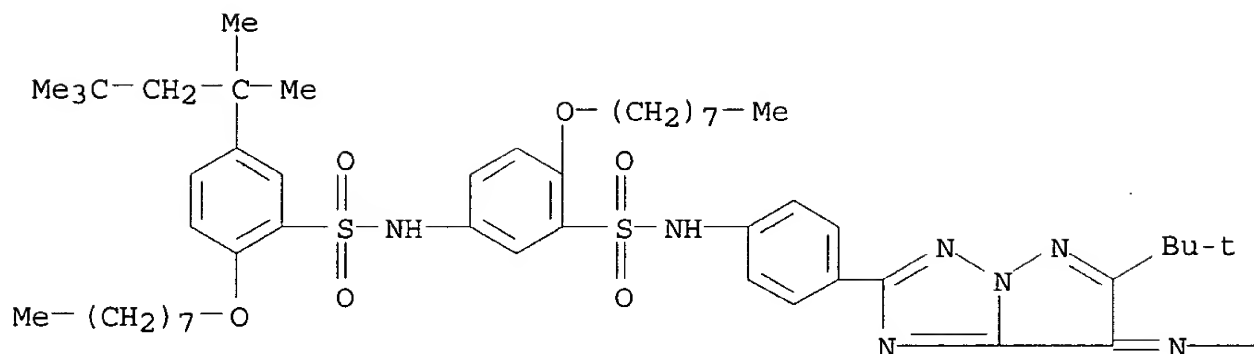
AB Title compns. comprise dyes, water-mixable org. solvents, and .gtoreq.1 compds. capable dye-inclusion. Thus, an ink compn. comprising magenta dye M 1 7.5, diethylene glycol 150, urea 37, **glycerin** 130, triethylene glycol monobutyl ether 130, triethanol amine 6.9, benzotriazole 0.08, Proxel XL 2 3.5, and Aerosol OT 10 g, and water was heated at 30-40.degree., stirred for 1 h, and adjusted at pH 9 to give an ink for Magenta, 40 g .gamma.-cyclodextrin and 40 g mol. nano tube were added thereon to give an **ink for ink-jet printing** showing dye retention ratio after irradiation for 10 days 23% and 42% after storing at 80.degree. and 15% RH for 10 days.

IT **358342-91-3**  
(dye; ink compns. contg. dye inclusion-capable compds.)

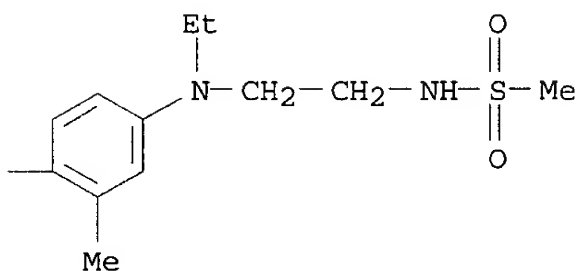
RN 358342-91-3 HCA

CN Benzenesulfonamide, N-[3-[[[4-[6-(1,1-dimethylethyl)-7-[[4-[ethyl[2-[(methylsulfonyl)amino]ethyl]amino]-2-methylphenyl]imino]-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI)  
(CA INDEX NAME)

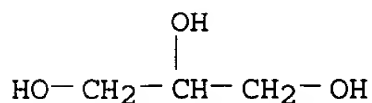
PAGE 1-A



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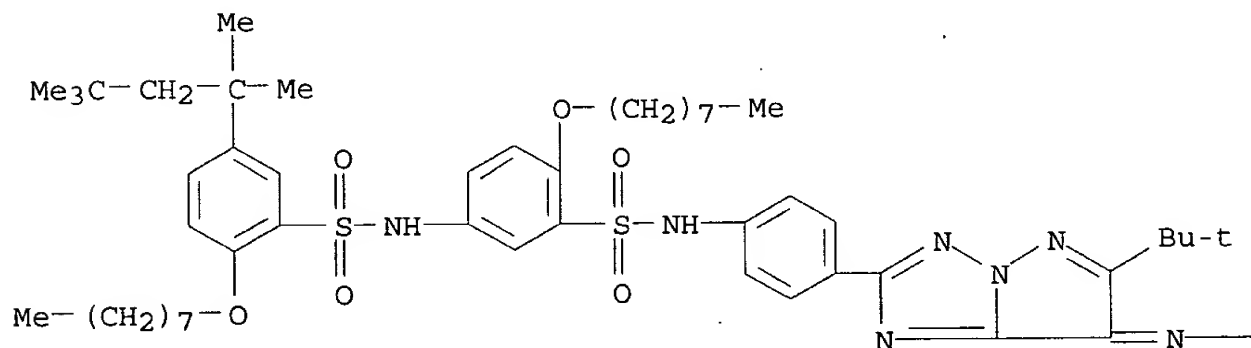
IT 56-81-5, Glycerin, uses  
 (solvent; ink compns. contg. dye inclusion-capable compds.)  
 RN 56-81-5 HCA  
 CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



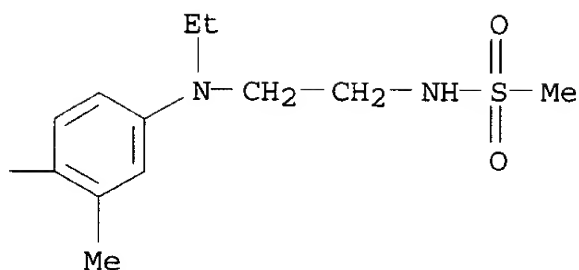
IC ICM C09D011-00  
 ICS B41J002-01; B41M005-00  
 CC 42-12 (Coatings, Inks, and Related Products)  
 ST ink jet compn printing image  
 preservation; Magenta gamma cyclodextrin mol nanotube ink compn  
 IT Inks

- (**jet-printing**, water-thinned; ink compns. contg. dye inclusion-capable compds.)
- IT 358342-91-3  
(dye; ink compns. contg. dye inclusion-capable compds.)
- IT 56-81-5, **Glycerin**, uses 111-46-6, Diethylene glycol, uses  
(solvent; ink compns. contg. dye inclusion-capable compds.)
- L43 ANSWER 4 OF 11 HCA COPYRIGHT 2003 ACS  
136:327137 Water-thinned **ink** compositions for **jet printing**. Yamanouchi, Junichi; Yamada, Masato; Yabuki, Yoshiharu (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002121414 A2 20020423, 68 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-211417 20010711. PRIORITY: JP 2000-216511 20000717.
- AB The ink compns. contain colored fine particle dispersions contg. hydrophobic org. solvents (b.p. .gtoreq.150.degree.) and oil-sol. dyes, and polymer latexes. Thus, a dispersion prepd. from an oil-sol. dye, Na dioctylsulfosuccinate, (MeC6H4O)3PO, (Me3CCH2CHMeCH2O)3PO, and UV absorbents was mixed with diethylene glycol, **glycerin**, Surfynol 465, urea, H2O, KOH, and acrylic acid-butadiene-styrene copolymer latexes to give a light magenta ink showing good printability, dryability, lightfastness, and water resistance.
- IT 358342-91-3  
(water-thinned **jet printing inks** with good dryability, lightfastness, and water resistance)
- RN 358342-91-3 HCA  
CN Benzenesulfonamide, N-[3-[[[4-[6-(1,1-dimethylethyl)-7-[[4-[ethyl[2-[(methylsulfonyl)amino]ethyl]amino]-2-methylphenyl]imino]-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI)  
(CA INDEX NAME)

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- IC ICM C09B067-20  
 ICS C09B067-20; B41J002-01; B41M005-00; C09B029-09; C09B047-067;  
 C09B047-073; C09B055-00; C09B067-46; C09D011-00
- CC 42-12 (Coatings, Inks, and Related Products)
- ST magenta aq **ink jet printing**; water  
 resistant polymer latex **jet printing ink**  
 ; oil sol dye **jet printing ink**
- IT Solvents  
 (high-boiling; water-thinned **jet printing**  
**inks** with good dryability, lightfastness, and water  
 resistance)
- IT **Inks**  
 (**jet-printing**, water-thinned; water-thinned  
**jet printing inks** with good  
 dryability, lightfastness, and water resistance)
- IT Dyes  
 (oil-sol.; water-thinned **jet printing**  
**inks** with good dryability, lightfastness, and water  
 resistance)
- IT 78-42-2, Tris(2-ethylhexyl) phosphate 84-74-2, Dibutyl phthalate  
 1330-78-5 2528-39-4, Trihexyl phosphate 129877-64-1  
 176533-62-3  
 (high-boiling solvent; water-thinned **jet**  
**printing inks** with good dryability,  
 lightfastness, and water resistance)
- IT 9003-17-2, Butadiene homopolymer 9003-55-8, Butadiene-styrene  
 copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer  
 25085-39-6, Acrylic acid-butadiene-styrene copolymer 25153-46-2,  
 2-Ethylhexyl acrylate-styrene copolymer 26284-14-0, Butyl  
 methacrylate-methacrylic acid copolymer 29316-78-7, Acrylic  
 acid-butyl acrylate-tert-butyl acrylate copolymer 50830-48-3,  
 Allyl methacrylate-butyl acrylate-styrene copolymer 59809-01-7,  
 Butyl acrylate-ethylene glycol dimethacrylate-styrene copolymer  
 90692-09-4 95890-94-1, Divinylbenzene-2-ethylhexyl

methacrylate-styrene copolymer 414909-48-1, Acrylic acid-2-acetoacetoxyethyl methacrylate-methyl acrylate copolymer (latex; water-thinned **jet printing inks** with good dryability, lightfastness, and water resistance)

IT 70806-79-0 118150-13-3 118150-18-8 123036-85-1 346709-26-0  
358342-91-3 369595-79-9 369595-82-4 414909-45-8  
414909-46-9 414909-47-0 415684-04-7  
(water-thinned **jet printing inks** with good dryability, lightfastness, and water resistance)

L43 ANSWER 5 OF 11 HCA COPYRIGHT 2003 ACS

136:201982 Colorant particle dispersions, their use in **ink-jet printing inks** and method of printing. Ishizuka, Takahiro; Yamanouchi, Junichi; Sotozono, Hirohisa (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002060648 A2 20020226, 39 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-152236 20010522. PRIORITY: JP 2000-151886 20000523.

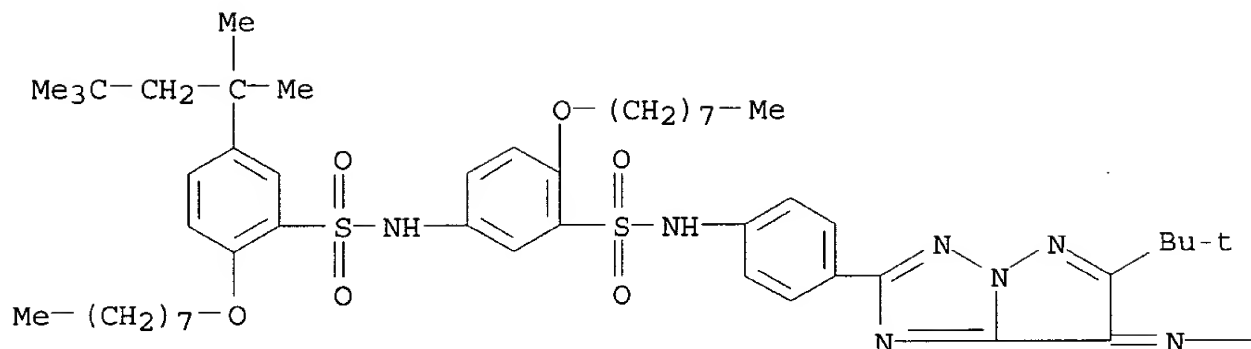
AB The dispersions contain oil-sol. dyes (A) and carboxyalkyl (meth)acrylate copolymers (B) and are obtained by emulsifying an oil phase contg. A and B in water. Thus, neutralizing a mixt. of i-PrOH 4, tert-BuOH 6, 2-carboxyethyl acrylate-Bu methacrylate (10:90) copolymer 1.4 and an oil-sol. dye 0.6 with a 2M NaOH soln., heating to 80.degree., stirring while combining with water 30 parts, and condensing at 40.degree. in vacuo gave a colorant dispersions with solids content 15% and contg. particles with vol.-av. diam. 67 nm. Mixing the dispersion 42 with diethylene glycol 10, **glycerin** 5, hexaethylene glycol monododecyl ether sulfate Na salt 0.5, di(2-ethylhexyl) sulfosuccinate Na salt 0.5 and water 36 parts and filtering gave an **ink** for **ink-jet printing** with good printability to various kinds of paper.

IT 358342-81-1 358342-91-3 358638-80-9  
358638-81-0 362497-25-4 362497-26-5  
(oil-sol. dyes; manuf. of colorant particle dispersions, use in **ink-jet printing inks** and method of printing)

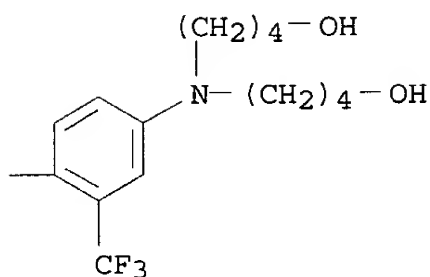
RN 358342-81-1 HCA

CN Benzenesulfonamide, N-{3-[[[4-[7-[[4-[bis(4-hydroxybutyl)amino]-2-(trifluoromethyl)phenyl]imino]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)}- (9CI) (CA INDEX NAME)

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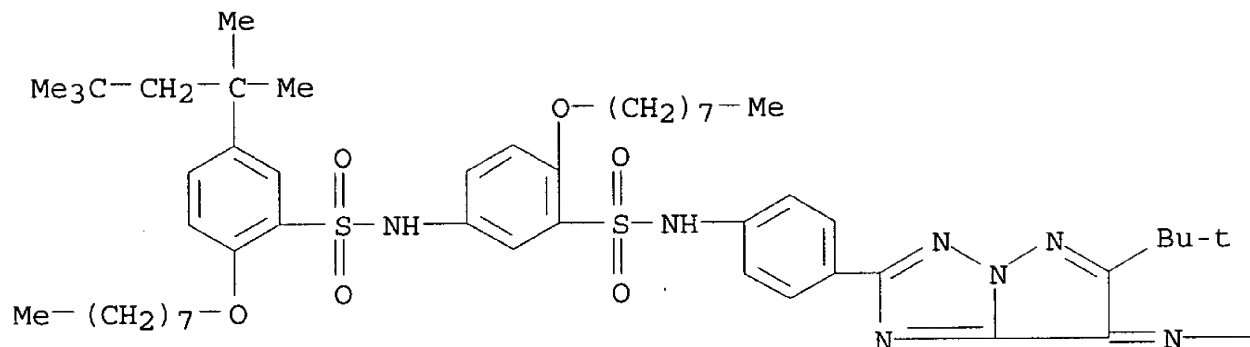


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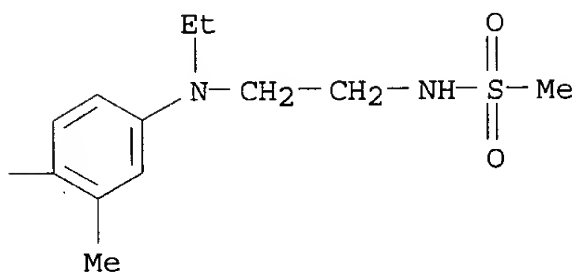


RN 358342-91-3 HCA  
 CN Benzenesulfonamide, N-[3-[[[4-[6-(1,1-dimethylethyl)-7-[[4-[ethyl[2-[(methylsulfonyl)amino]ethyl]amino]-2-methylphenyl]imino]-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI)  
 (CA INDEX NAME)

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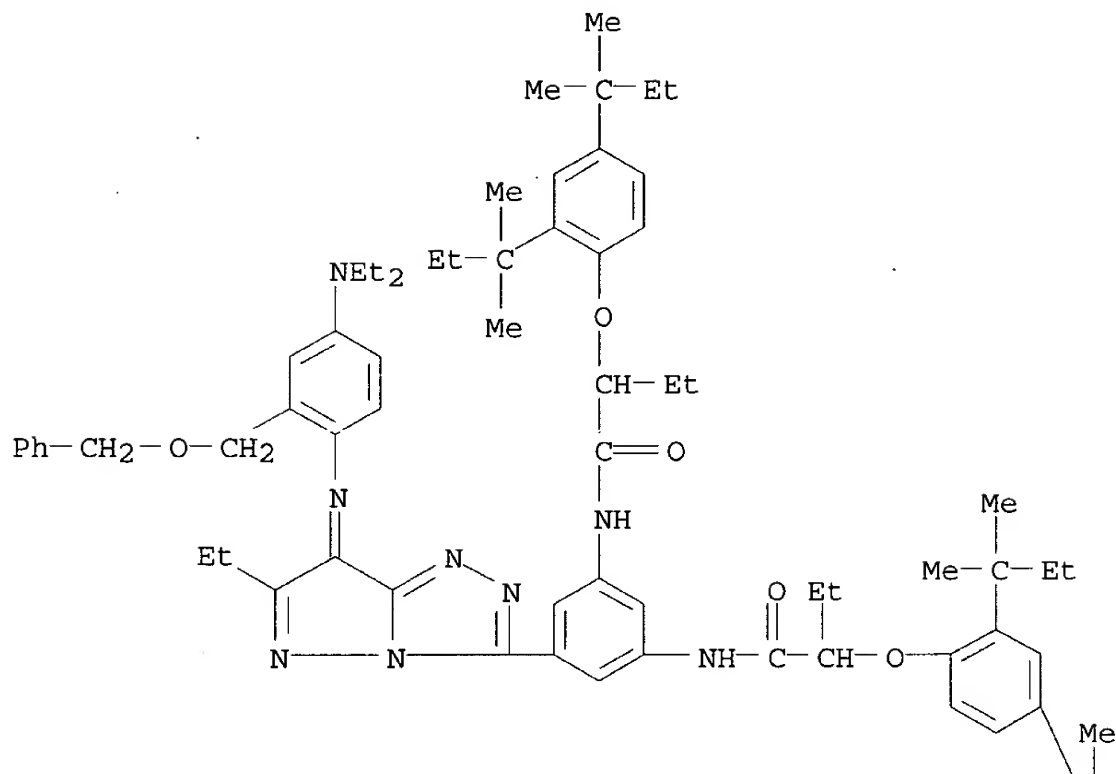
PAGE 1-B



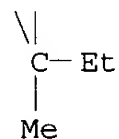
RN 358638-80-9 HCA

CN Butanamide, N,N'-[5-[7-[[4-(diethylamino)-2-  
 [(phenylmethoxy)methyl]phenyl]imino]-6-ethyl-7H-pyrazolo[5,1-c]-  
 1,2,4-triazol-3-yl]-1,3-phenylene]bis[2-[2,4-bis(1,1-  
 dimethylpropyl)phenoxy]]- (9CI) (CA INDEX NAME)

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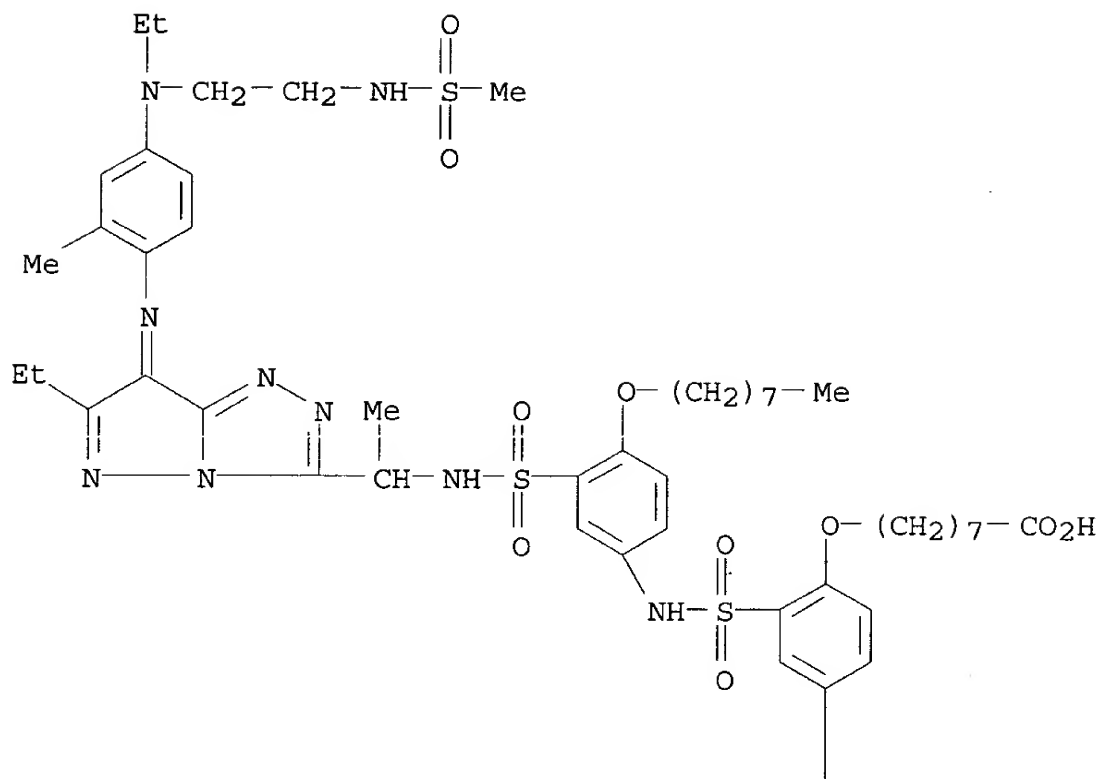
PAGE 2-A



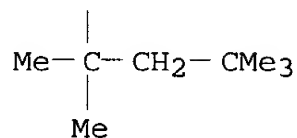
RN 358638-81-0 HCA  
 CN Octanoic acid, 8-[2-[[[3-[[[1-[6-ethyl-7-[[4-[ethyl[2-  
 [(methylsulfonyl)amino]ethyl]amino]-2-methylphenyl]imino]-7H-  
 pyrazolo[5,1-c]-1,2,4-triazol-3-yl]ethyl]amino]sulfonyl]-4-  
 (octyloxy)phenyl]amino]sulfonyl]-4-(1,1,3,3-  
 tetramethylbutyl)phenoxy]-(9CI) (CA INDEX NAME)



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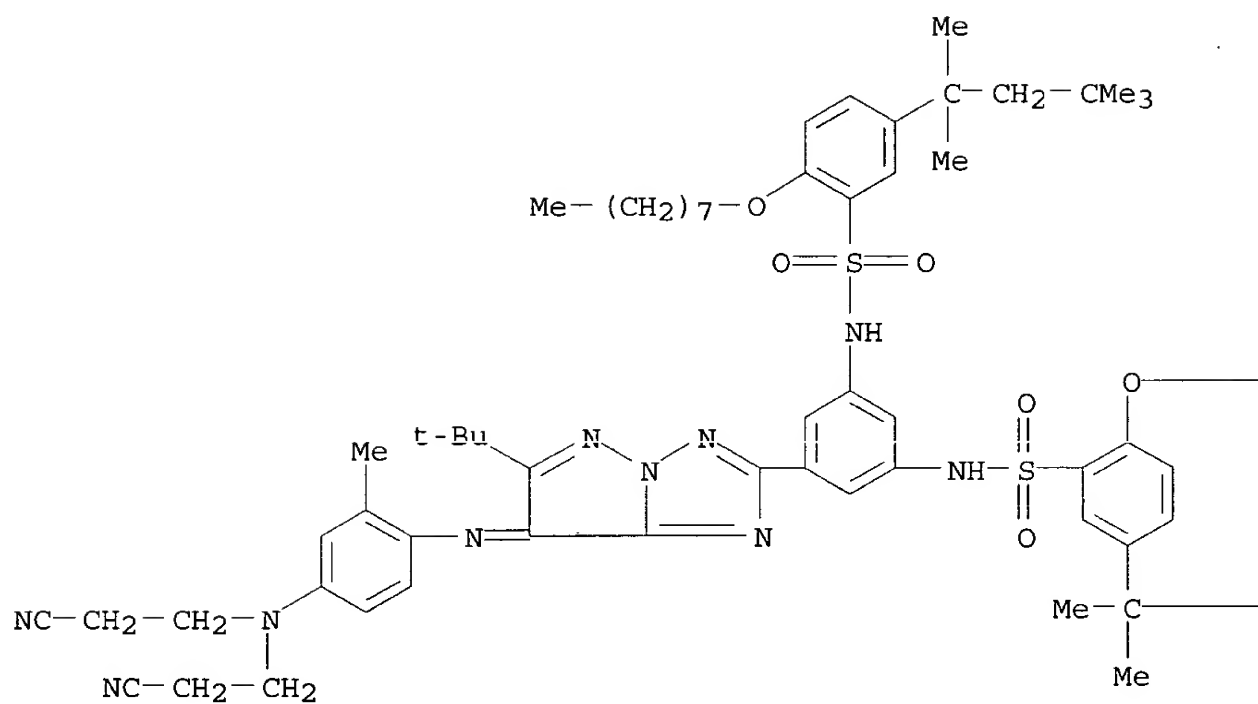


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RN 362497-25-4 HCA  
 CN Benzenesulfonamide, N,N'-[5-[7-[[4-[bis(2-cyanoethyl)amino]-2-methylphenyl]imino]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]-1,3-phenylene]bis[2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)]-(9CI) (CA INDEX NAME)

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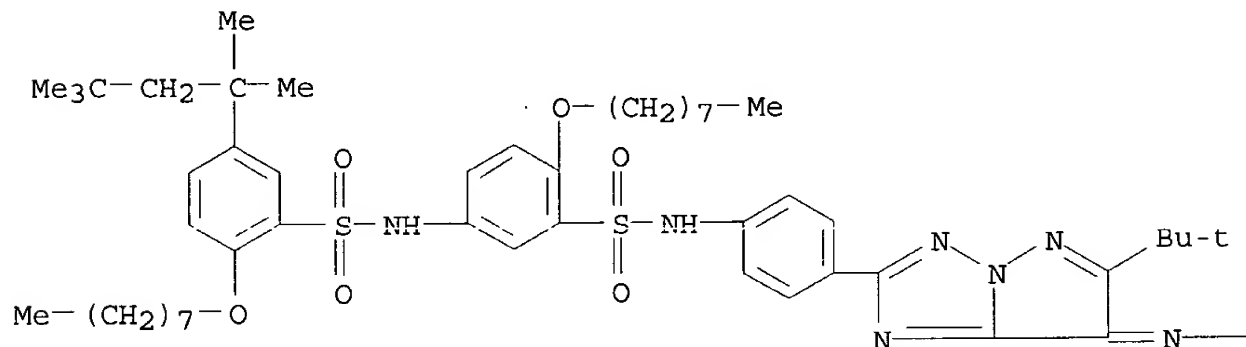


PAGE 1-B

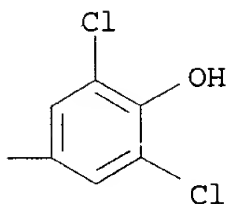
— (CH<sub>2</sub>)<sub>7</sub>—Me .— CH<sub>2</sub>—CMe<sub>3</sub>

RN 362497-26-5 HCA  
 CN Benzenesulfonamide, N-[3-[[[4-[7-[(3,5-dichloro-4-hydroxyphenyl)imino]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI) (CA INDEX NAME)

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PAGE 1-B



IC ICM C09B067-40  
 ICS B01F017-52; B41J002-01; B41M005-00; C09B055-00; C09B067-20;  
 C09B067-46; C09D011-00  
 CC 42-12 (Coatings, Inks, and Related Products)  
 ST oil sol dye dispersion **ink jet printing**  
**ink printability**; carboxyethyl acrylate copolymer  
 emulsifying agent **ink jet printing**  
**ink**  
 IT Emulsifying agents  
 (carboxyethyl acrylate copolymers; manuf. of colorant particle  
 dispersions, use in **ink-jet printing**  
**inks** and method of printing)  
 IT **Inks**

(jet-printing; manuf. of colorant particle dispersions, use in ink-jet printing inks and method of printing)

IT Dyes

(oil-sol.; manuf. of colorant particle dispersions, use in ink-jet printing inks and method of printing)

IT 401632-79-9, Butyl methacrylate-2-carboxyethyl acrylate copolymer sodium salt 401632-81-3 401632-82-4 401632-83-5 401632-84-6 401789-13-7, Butyl methacrylate-2-carboxyethyl acrylate-ethylene oxide graft copolymer methyl ether

(emulsifying agent for dyes; manuf. of colorant particle dispersions, use in ink-jet printing inks and method of printing)

IT 346709-26-0 355841-72-4 358342-81-1 358342-91-3 358638-80-9 358638-81-0 362497-25-4 362497-26-5 362497-28-7

(oil-sol. dyes; manuf. of colorant particle dispersions, use in ink-jet printing inks and method of printing)

L43 ANSWER 6 OF 11 HCA COPYRIGHT 2003 ACS

136:120020 Manufacture of thermal ink-jet

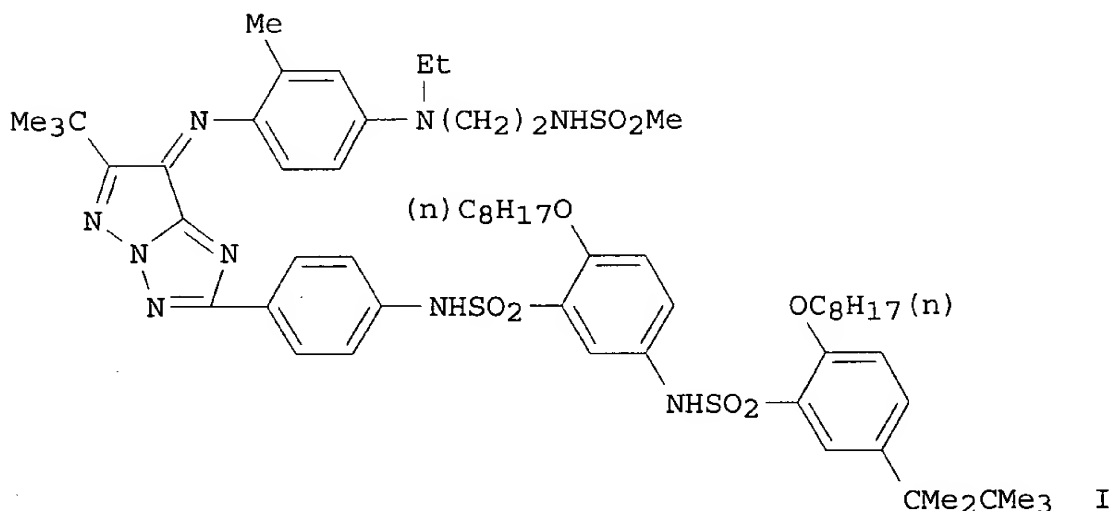
inks and printing process therewith. Arakawa, Jun

(Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP

2002020657 A2 20020123, 36 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 2000-200780 20000703.

GI



AB Title inks, useful in high-speed printing process and resulting prints with durable properties, are prep'd. by adding low b.p. (e.g., <150.degree.) org. solvents into high b.p. org. solvent-dissolved

oil dyes, then emulsion dispersing in aq. media, and removing the low. b.p. org. solvents. Stirring water with a mixt. of I 6, Na dioctyl sulfosuccinate 5, tritoyl phosphate 6, and tris(2,4,4-trimethylpentyl) phosphate 10 g and 50 mL EtOAc, emulsifying at 60 Mpa, evapg. EtOAc, adding water, **glycerol**, diethylene glycol, and a surfactant gave an ink with vol-av. diam. of 58 nm and showing good storage stability at 60.degree. for 1 wk, no clogging until >500 mL, and color concn. decrease 2% after soaking in water for 1 min.

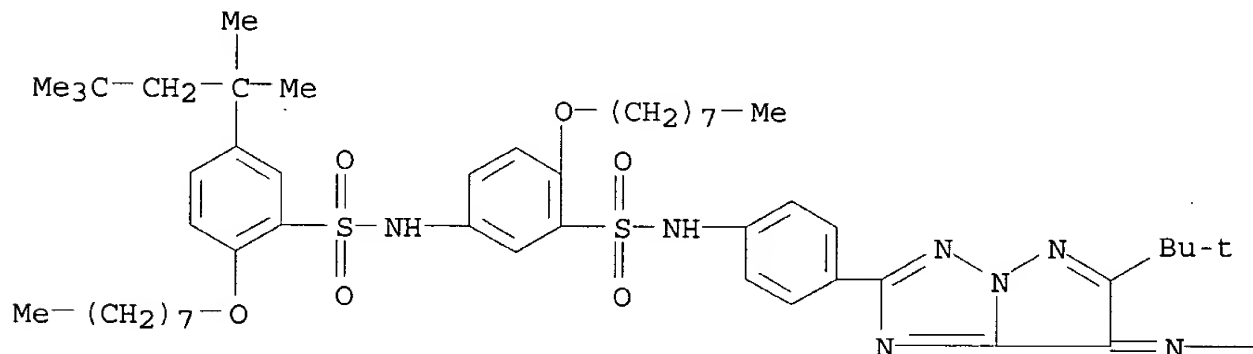
IT 358342-91-3

(manuf. of thermal aq. **ink-jet inks**  
involving addn. of low and high b.p. org. solvents for  
anticlogging and storage stability)

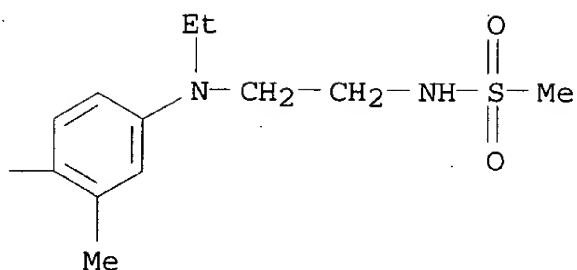
RN 358342-91-3 HCA

CN Benzenesulfonamide, N-[3-[[[4-[6-(1,1-dimethylethyl)-7-[[4-[ethyl[2-[(methylsulfonyl)amino]ethyl]amino]-2-methylphenyl]imino]-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI)  
(CA INDEX NAME)

PAGE 1-A



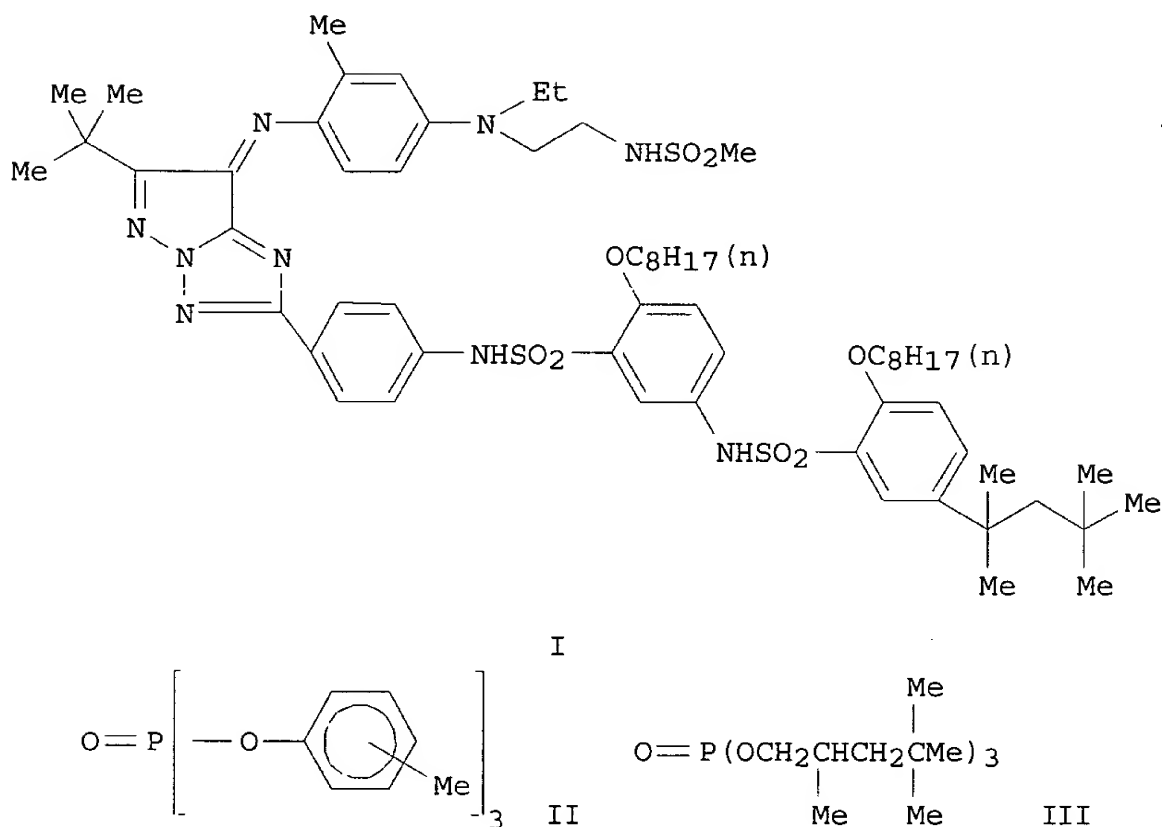
PAGE 1-B



- IC ICM C09D011-00  
ICS B41J002-01; B41M005-00  
CC 42-12 (Coatings, Inks, and Related Products)  
IT **Inks**  
(jet-printing; manuf. of thermal aq. ink-jet inks involving addn. of low and high b.p. org. solvents for anticlogging and storage stability)  
IT Emulsification  
(manuf. of thermal aq. ink-jet inks involving addn. of low and high b.p. org. solvents for anticlogging and storage stability)  
IT Dyes  
(oil; manuf. of thermal aq. ink-jet inks involving addn. of low and high b.p. org. solvents for anticlogging and storage stability)  
IT Solvents  
(org.; manuf. of thermal aq. ink-jet inks involving addn. of low and high b.p. org. solvents for anticlogging and storage stability)  
IT 141-78-6, Ethyl acetate, uses 1330-78-5, Tritolyl phosphate 129877-64-1  
(manuf. of thermal aq. ink-jet inks involving addn. of low and high b.p. org. solvents for anticlogging and storage stability)  
IT 118150-13-3 346709-26-0 358342-91-3  
(manuf. of thermal aq. ink-jet inks involving addn. of low and high b.p. org. solvents for anticlogging and storage stability)  
L43 ANSWER 7 OF 11 HCA COPYRIGHT 2003 ACS  
135:359262 Water-resistant ink-jet ink  
composition with good discharge and storage stability and printing method therewith. Azuma, Yasushi (Fuji Photo Film Co., Ltd.,

Japan). Jpn. Kokai Tokkyo Koho JP 2001316605 A2 20011116; 30 pp.  
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-135543 20000509.

GI

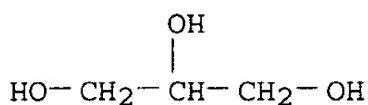


AB Title ink compn. contains a dye dispersion prepd. by emulsifying in an aq. medium oil-sol. dyes dissolved by org. solvents having high b.p., wherein the dispersed particles are characterized by the vol.-av. diam. of .ltoreq.100 nm and the ratio of vol.-av. diam. and no.-av. diam. (vol.-av. diam./no.-av. diam.) 1-1.5. Thus, a dispersion comprising an azomethine dye I 8, Na dioctylsulfosuccinate 5, high-b.p. solvents II and III 6 and 10 g, and Et acetate 50 mL, was emulsified, desolvated, and added with diethylene glycol 130, **glycerin** 60, Na dioctylsulfosuccinate 7.2 g, and water 700 mL to give an ink showing good printing quality, esp. on white pigment-contg. image receiving paper.

IT 56-81-5, **Glycerin**, uses  
 (prepn. of water-resistant **ink-jet**  
**ink** compn. with good discharge and storage stability)

RN 56-81-5 HCA

CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



IT 358342-91-3

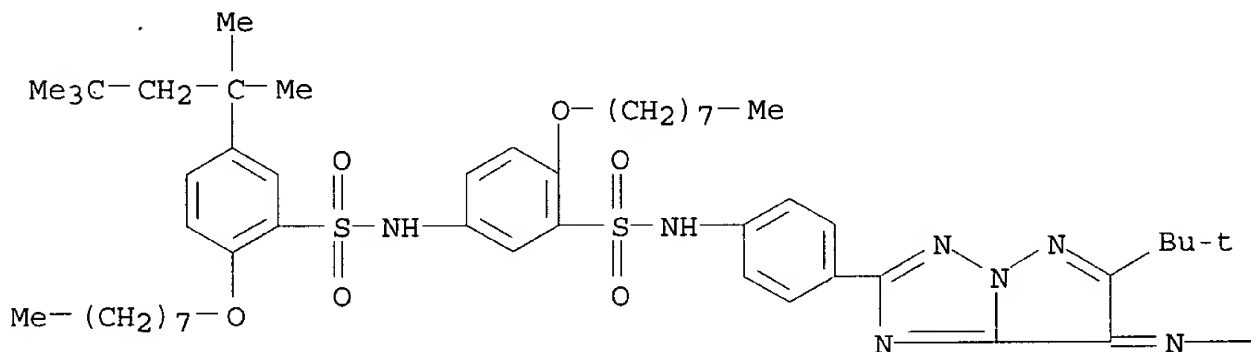
(prepn. of water-resistant ink-jet

ink compn. with good discharge and storage stability)

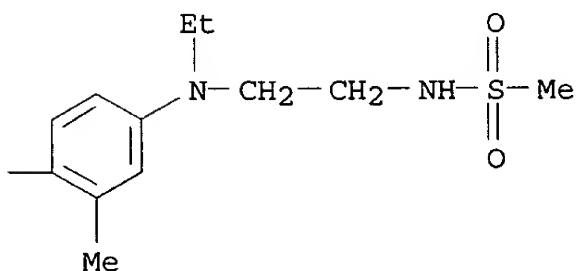
RN 358342-91-3 HCA

CN Benzenesulfonamide, N-[3-[[[4-[6-(1,1-dimethylethyl)-7-[[4-[ethyl[2-[(methylsulfonyl)amino]ethyl]amino]-2-methylphenyl]imino]-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI)  
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B

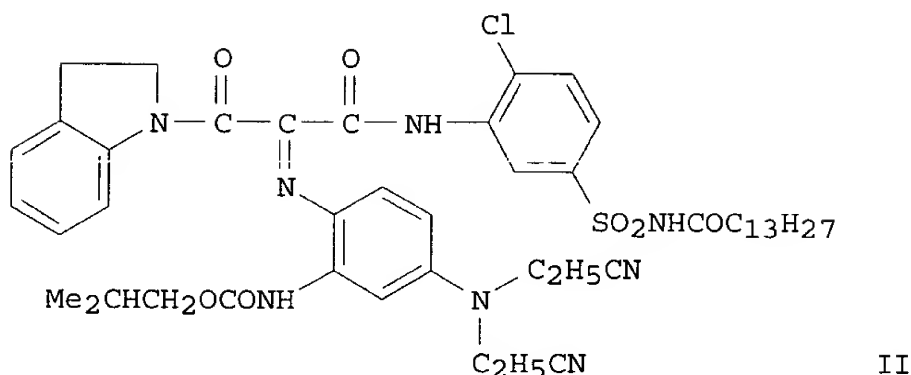
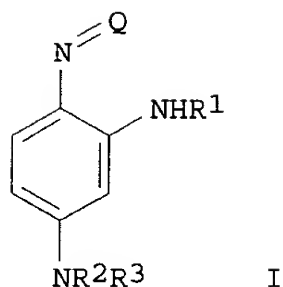




IC ICM C09D011-00  
ICS B41J002-01; B41M005-00  
CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 41  
ST azomethine oil dye aq emulsion **jet ink** prepn  
IT Dyes  
(azomethine; prepn. of water-resistant **ink-jet**  
**ink** compn. with good discharge and storage stability)  
IT Water-resistant materials  
(inks; prepn. of water-resistant **ink-jet**  
**ink** compn. with good discharge and storage stability)  
IT **Inks**  
(**jet-printing**; prepn. of water-resistant  
**ink-jet ink** compn. with good  
discharge and storage stability)  
IT Dyes  
(oil-sol.; prepn. of water-resistant **ink-jet**  
**ink** compn. with good discharge and storage stability)  
IT Dispersion (of materials)  
(prepn. of water-resistant **ink-jet**  
**ink** compn. with good discharge and storage stability)  
IT **Inks**  
(water-resistant; prepn. of water-resistant **ink-**  
**jet ink** compn. with good discharge and storage  
stability)  
IT Solvents  
(with high-b.p.; prepn. of water-resistant **ink-**  
**jet ink** compn. with good discharge and storage  
stability)  
IT 577-11-7, Sodium dioctylsulfosuccinate  
(prepn. of water-resistant **ink-jet**  
**ink** compn. with good discharge and storage stability)  
IT 56-81-5, **Glycerin**, uses 111-46-6, Diethylene  
glycol, uses 1330-78-5 129877-64-1  
(prepn. of water-resistant **ink-jet**  
**ink** compn. with good discharge and storage stability)  
IT 5844-01-9, C.I. Solvent Yellow 28 118150-13-3 346709-26-0  
**358342-91-3**  
(prepn. of water-resistant **ink-jet**  
**ink** compn. with good discharge and storage stability)

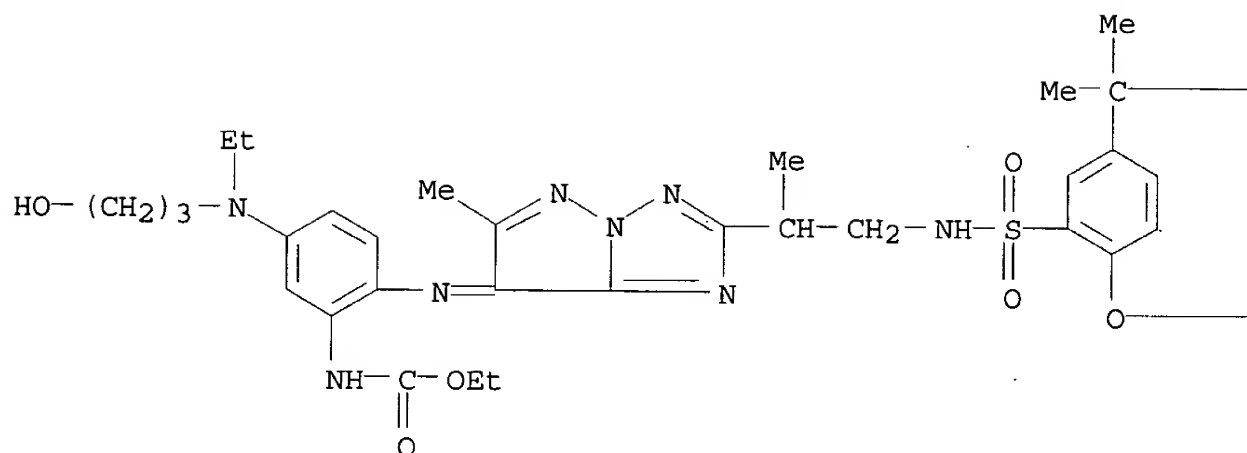
L43 ANSWER 8 OF 11 HCA COPYRIGHT 2003 ACS  
135:305326 Coloring compositions containing azomethine dye for  
**ink-jet inks**. Kawagishi, Toshio;  
Kimura, Keizo (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo  
Koho JP 2001288381 A2 20011016, 47 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 2000-102498 20000404.

GI



- AB The compn. contains oil-sol. azomethine dye I (Q = at. group necessary for VIS and/or near IR absorption; R1 = H, acyl, aryloxy carbonyl, alkoxy carbonyl, carbamoyl, alkyl and arylsulfonyl, sulfamoyl, phosphinyl; R2, R3 = H, alkyl, aryl, heterocycyl, ring formed from R2 and R3) dispersed in an aq. medium. The coloring compns. are useful in **ink-jet inks** for aq. writing inks, aq. printing inks, aq. recording inks, etc. providing high-quality images independently of paper. Thus, 42 parts dispersion contg. acrylic acid-sec-Bu acrylate-acrylic copolymer and II was mixed with diethylene glycol 8, **glycerin** 8, triethylene glycol monobutyl ether 5, sodium hexaethylene glycol monododecyl ether sulfate 0.5, sodium di-2-ethylhexyl sulfosuccinate 0.5, and ion-exchanged H2O 36 parts to give a water-thinned **ink-jet ink** showing good good color tone, paper dependency, and water and light resistance.
- IT 365540-31-4 365540-32-5 365540-33-6  
(dye; coloring compns. contg. azomethine dyes for **ink-jet inks**)
- RN 365540-31-4 HCA  
CN Carbamic acid, [5-[ethyl(3-hydroxypropyl)amino]-2-[[6-methyl-2-[1-methyl-2-[[[2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)phenyl]sulfonyl]amino]ethyl]-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]phenyl]-, ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

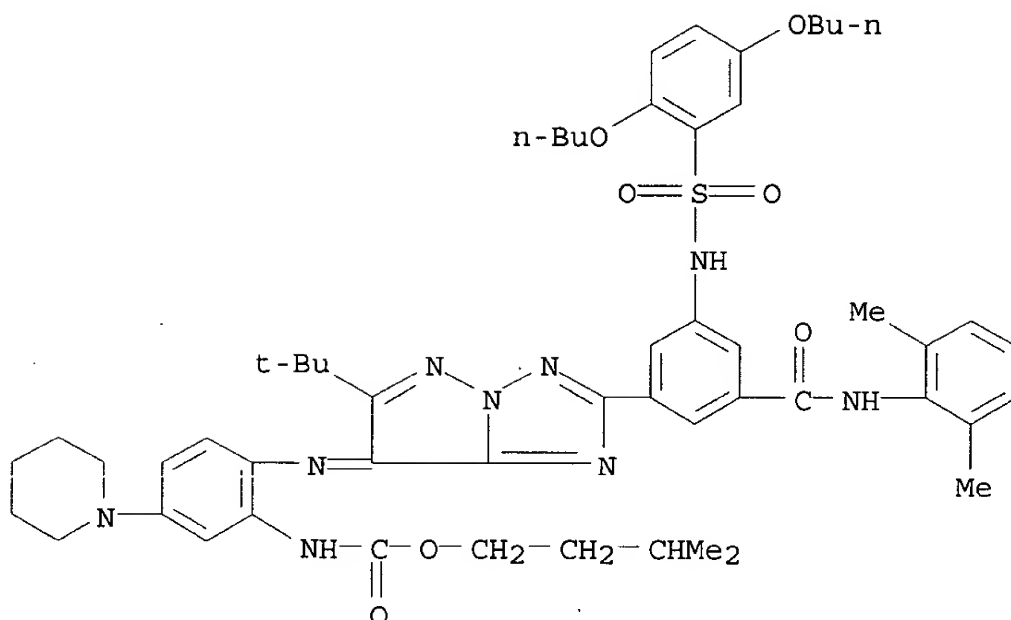


PAGE 1-B

— CH<sub>2</sub>— CMe<sub>3</sub>— (CH<sub>2</sub>)<sub>7</sub>— Me

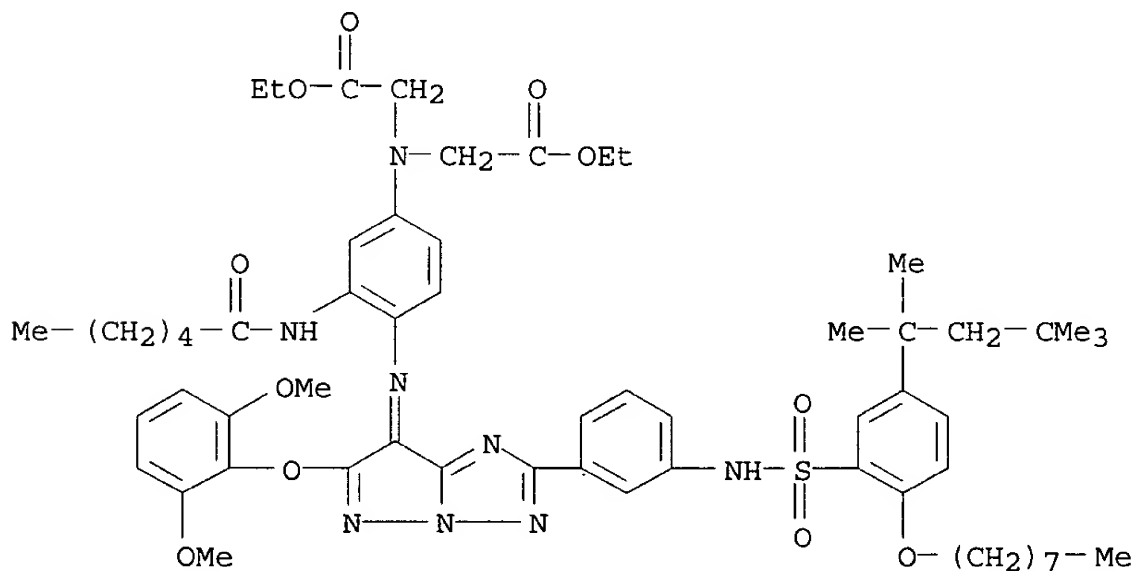
RN 365540-32-5 HCA

CN Carbamic acid, [2-[[2-[3-[[[(2,5-dibutoxyphenyl)sulfonyl]amino]-5-[[[(2,6-dimethylphenyl)amino]carbonyl]phenyl]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]-5-(1-piperidinyl)phenyl]-, 3-methylbutyl ester (9CI) (CA INDEX NAME)



RN 365540-33-6 HCA

CN Glycine, N-[4-[[6-(2,6-dimethoxyphenoxy)-2-[3-[[[2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)phenyl]sulfonyl]amino]phenyl]-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]-3-[(1-oxohexyl)amino]phenyl]-N-(2-ethoxy-2-oxoethyl)-, ethyl ester (9CI)  
(CA INDEX NAME)



IC ICM C09B067-46

ICS B41J002-01; B41M005-00; C09B055-00; C09D011-00

- CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 41
- ST azomethine dye coloring compn **jet printing ink**
- IT Polyoxyalkylenes, uses  
(acrylic, graft; coloring compns. contg. azomethine dyes for **ink-jet inks**)
- IT Dyes  
(azomethine; coloring compns. contg. azomethine dyes for **ink-jet inks**)
- IT Polyesters, uses  
(coloring compns. contg. azomethine dyes for **ink-jet inks**)
- IT Acrylic polymers, uses  
(fluorine-contg.; coloring compns. contg. azomethine dyes for **ink-jet inks**)
- IT **Inks**  
(**jet-printing**, water-thinned; coloring compns. contg. azomethine dyes for **ink-jet inks**)
- IT **Inks**  
(printing, water-thinned; coloring compns. contg. azomethine dyes for **ink-jet inks**)
- IT **Inks**  
(writing, water-thinned; coloring compns. contg. azomethine dyes for **ink-jet inks**)
- IT 67906-95-0, Acrylic acid-butyl acrylate-methyl methacrylate copolymer sodium salt 113032-06-7, Ethylene glycol-isophthalic acid-neopentyl glycol-5-sulfoisophthalic acid-terephthalic acid copolymer 363158-97-8 363158-99-0 363159-04-0 363607-63-0 363607-65-2 363607-66-3  
(coloring compns. contg. azomethine dyes for **ink-jet inks**)
- IT 365540-24-5 365540-25-6 365540-26-7 365540-27-8 365540-28-9 365540-29-0 365540-30-3 365540-31-4 365540-32-5 365540-33-6  
(dye; coloring compns. contg. azomethine dyes for **ink-jet inks**)
- L43 ANSWER 9 OF 11 HCA COPYRIGHT 2003 ACS  
135:274342 Manufacture of **ink-jet ink** and **ink-jet** recording method. Arakawa, Jun (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl. EP 1136530 A2 20010926, 57 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXWDW. APPLICATION: EP 2001-106957 20010320. PRIORITY: JP 2000-78454 20000321.
- AB An **jet printing ink** with good discharge stability comprises a dye dispersion produced by dissolving an oil-sol. dye (structures specified) in a high-boiling org. solvent (b.p. .gtoreq.150.degree.) having a specific inductive capacity at 25.degree. of 3-12, emulsifying the oil-sol. dye in a

H<sub>2</sub>O-based medium and dispersing the dye at a pressure of .gtoreq.50 MPa using a high-pressure emulsifying and dispersing device. A typical title ink was manufd. by dissolving an oil-sol. pyrazolotriazole azomethine dye and dioctyl Na sulfosuccinate in a mixt. of (MeC<sub>6</sub>H<sub>4</sub>O)<sub>3</sub>PO, (Me<sub>3</sub>CCH<sub>2</sub>CHMeCH<sub>2</sub>O)<sub>3</sub>PO and EtOAc, adding H<sub>2</sub>O to the stirred mixt., dispersing the resulting emulsion in a high-pressure (600 bar) device, removing EtOAc by distn. and adding diethylene glycol, **glycerol**, Surfynol 465 and H<sub>2</sub>O to the resulting dispersion.

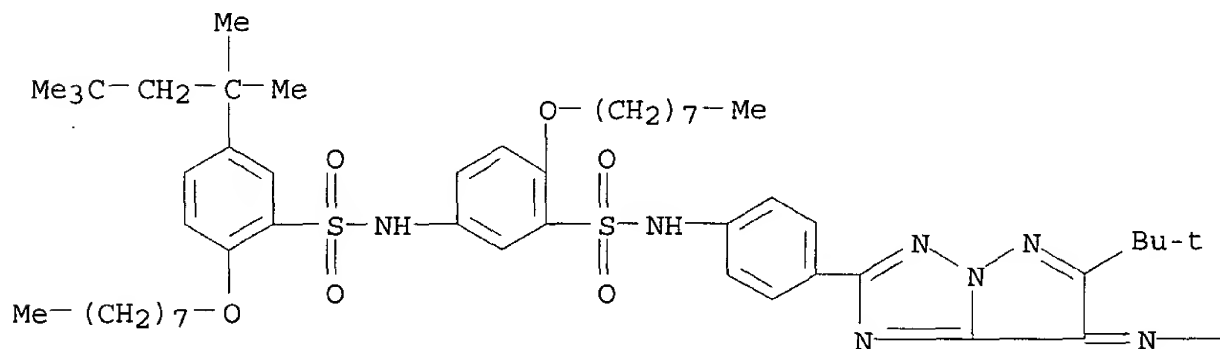
IT 358342-91-3

(oil-sol. dye; manuf of **ink-jet ink**  
and **ink-jet** recording method)

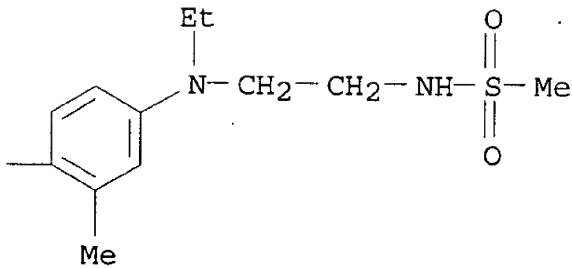
RN 358342-91-3 HCA

CN Benzenesulfonamide, N-[3-[[[4-[6-(1,1-dimethylethyl)-7-[[4-[ethyl[2-[(methylsulfonyl)amino]ethyl]amino]-2-methylphenyl]imino]-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]sulfonyl]-4-(octyloxy)phenyl]-2-(octyloxy)-5-(1,1,3,3-tetramethylbutyl)- (9CI)  
(CA INDEX NAME)

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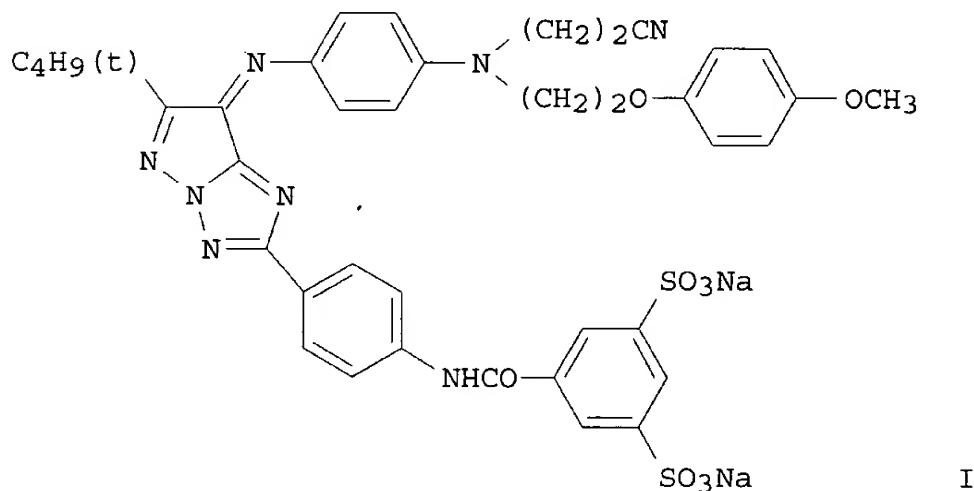
- IC ICM C09D011-00  
ICS C09B055-00
- CC 42-12 (Coatings, Inks, and Related Products)
- ST **jet printing ink** manuf;  
pyrazolotriazole azomethine oil soluble dye **jet printing ink** manuf; cresyl phosphate solvent **jet printing ink** manuf; octyl phosphate solvent **jet printing ink** manuf; dielec const org solvent aq dispersion **jet printing ink**
- IT Dyes  
(azomethine, pyrazolotriazole derivs.; manuf of **ink-jet ink** and **ink-jet** recording method)
- IT **Inks**  
(**jet-printing**; manuf of **ink-jet ink** and **ink-jet** recording method)
- IT **Ink-jet printing**  
(manuf of **ink-jet ink** and **ink-jet** recording method)
- IT Dyes  
(oil-sol., azomethine, pyrazolotriazole derivs.; manuf of **ink-jet ink** and **ink-jet** recording method)
- IT Solvents  
(org., high-boiling; manuf of **ink-jet ink** and **ink-jet** recording method)
- IT 577-11-7, Dioctyl sodium sulfosuccinate  
(emulsifier; manuf of **ink-jet ink** and **ink-jet** recording method)
- IT 358342-91-3  
(oil-sol. dye; manuf of **ink-jet ink** and **ink-jet** recording method)

IT 108-88-3, Toluene, uses 141-78-6, Ethyl acetate, uses 827-52-1, Cyclohexylbenzene 1330-78-5, Tricresyl phosphate 129877-64-1 (solvent; manuf of **ink-jet ink** and **ink-jet** recording method)

L43 ANSWER 10 OF 11 HCA COPYRIGHT 2003 ACS

134:18559 Preparation of water-resistant pigments with good hue and lightfastness and their use for **ink-jet inks**. Fujiwara, Yoshinori; Kamio, Takayoshi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000327969 A2 20001128, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-141979 19990521.

GI



AB The pigments are compds. A(LB)q, where A is a pigment residue absorbing visible and/or IR light, L is divalent connection group, B is a group capable of suppressing color fading and q=1 or 2 and A or/and B may contain sulfonic acid or/and carboxyl groups. One example of the pigments is compd. I which was prepd. by coupling of a 1H-pyrazolo[1,5-b][1,2,4]triazole deriv. with a p-nitrosoaniline deriv. Heating the mixt. of I 4, diethylene glycol 9, tetraethylene glycol monobutyl ether 9, **glycerin** 7, diethanolamine 1 and water 70 parts at 30-40.degree. for 1 h gave a waterborne ink with good claimed properties.

IT 309932-37-4P 309932-39-6P  
(prepn. of water-resistant pigments with good hue and lightfastness and use for **ink-jet inks**)

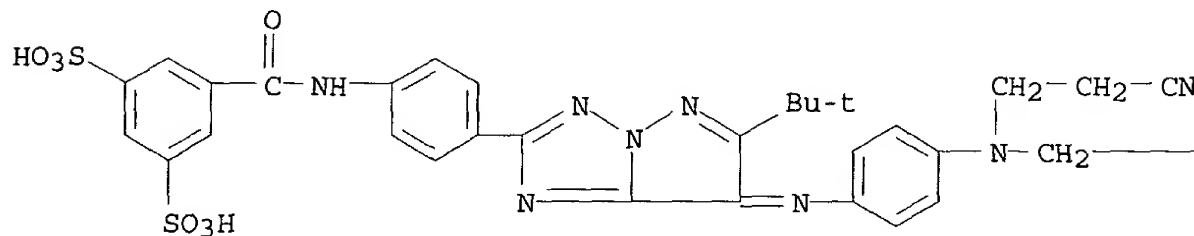
RN 309932-37-4 HCA

CN 1,3-Benzenedisulfonic acid, 5-[[[4-[7-[[4-[(2-cyanoethyl)[2-(4-methoxyphenoxy)ethyl]amino]phenyl]imino]-6-(1,1-dimethylethyl)-7H-



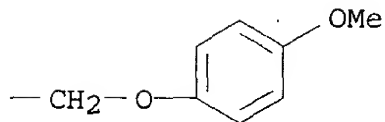
pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]carbonyl]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

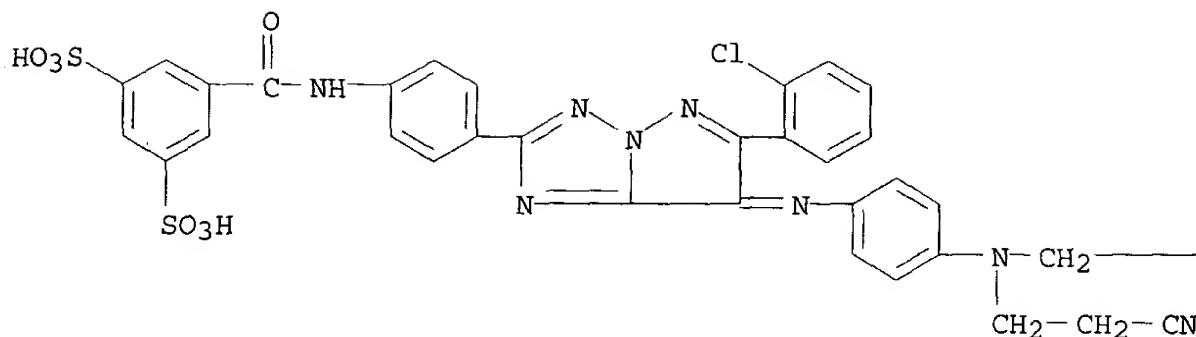
PAGE 1-B



RN 309932-39-6 HCA

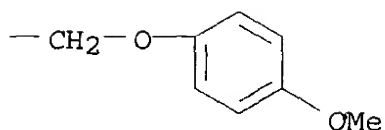
CN 1,3-Benzenedisulfonic acid, 5-[[[4-[6-(2-chlorophenyl)-7-[[4-[(2-cyanoethyl)[2-(4-methoxyphenoxy)ethyl]amino]phenyl]imino]-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]carbonyl]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B



IC ICM C09D011-00  
ICS B41J002-01; B41M005-00  
CC 41-8 (Dyes, Organic Pigments, Fluorescent Brighteners, and  
Photographic Sensitizers)  
Section cross-reference(s): 42  
ST water resistant pigment prepn ink jet  
ink; hue lightfastness pigment prepn; visible IR light  
absorbing pigment prepn; color fading resistance pigment prepn;  
pyrazolo triazole nitrosoaniline coupling pigment prepn  
IT Inks  
(jet-printing, water-thinned; prepn. of  
water-resistant pigments with good hue and lightfastness and use  
for ink-j t inks)  
IT Pigments, nonbiological

(prepn. of water-resistant pigments with good hue and lightfastness and use for **ink-jet inks**)

IT 309932-37-4P 309932-39-6P 309932-41-0P  
309932-43-2P

(prepn. of water-resistant pigments with good hue and lightfastness and use for **ink-jet inks**)

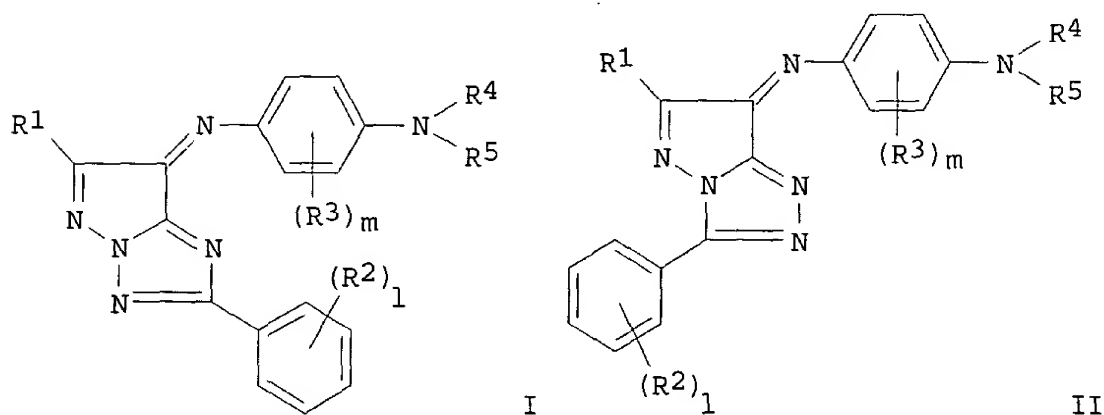
IT 20514-27-6 105701-18-6 136640-14-7 136640-26-1 227466-22-0  
309932-28-3 309932-32-9 309932-35-2

(reactant; prepn. of water-resistant pigments with good hue and lightfastness and use for **ink-jet inks**)

L43 ANSWER 11 OF 11 HCA COPYRIGHT 2003 ACS

131:46147 Magenta inks containing water-soluble pyrazolotriazole dyes and **ink-jet printing** method using them. Arai, Kazumi; Kamio, Takayoshi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11158422 A2 19990615 Heisei, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-324877 19971126.

GI



AB The inks contain I or II (R1-3 = H, halo, alkyl, cycloalkyl, aralkyl, aryl, heterocycle, alkoxy, aryloxy, cyano, acylamino, sulfonylamino, ureido, alkoxy-carbonylamino, alkylthio, arylthio, alkoxy-carbonyl, carbamoyl, sulfamoyl, sulfonyl, acyl, amino; R4, R5 = H, alkyl, cycloalkyl, aralkyl, aryl; R4 and R5, R3 and R4, or R3 and R5 may form a ring; .gtoreq.1 of R1-5 is water-sol. group; 1, m = 0-4). Thus, an ink contg. I [R1 = Me, R2 = p-NHAc, R4 = Et, R5 = (CH2)3SO3K, m = 0] 4, diethylene glycol 9, tetraethylene glycol Bu ether 9, **glycerin** 7, diethanolamine 1, and H2O 70 parts was used in **ink-jet printing** to give

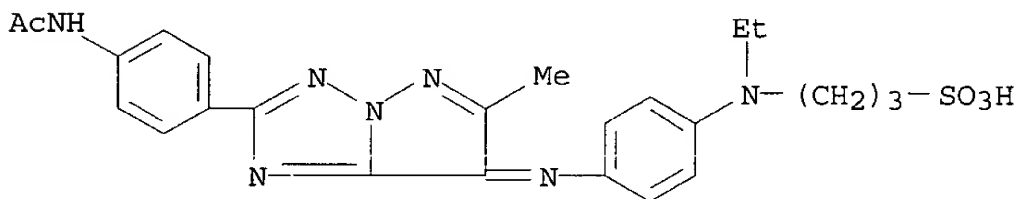
magenta images with good lightfastness.

IT 227466-16-2 227466-17-3 227466-18-4  
227466-19-5 227466-20-8 227466-21-9  
227466-23-1

(ink-jet magenta inks contg.  
water-sol. pyrazolotriazole dyes)

RN 227466-16-2 HCA

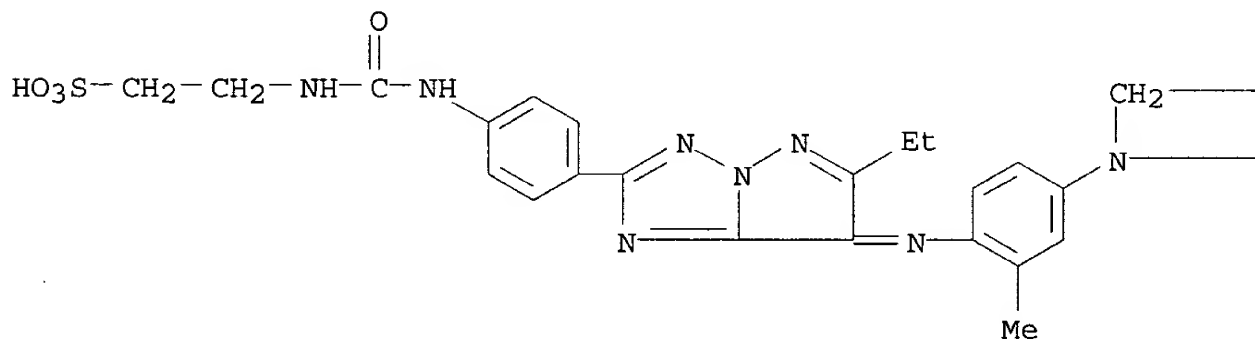
CN 1-Propanesulfonic acid, 3-[[4-[[2-[4-(acetylamino)phenyl]-6-methyl-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]phenyl]ethylamino]-, monopotassium salt (9CI) (CA INDEX NAME)



● K

RN 227466-17-3 HCA

CN 1-Propanesulfonic acid, 3-[[4-[[6-ethyl-2-[4-[[[(2-sulfoethyl)amino]carbonyl]amino]phenyl]-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]-3-methylphenyl](2-hydroxyethyl)amino]-, disodium salt (9CI) (CA INDEX NAME)



PAGE 1-A

● 2 Na

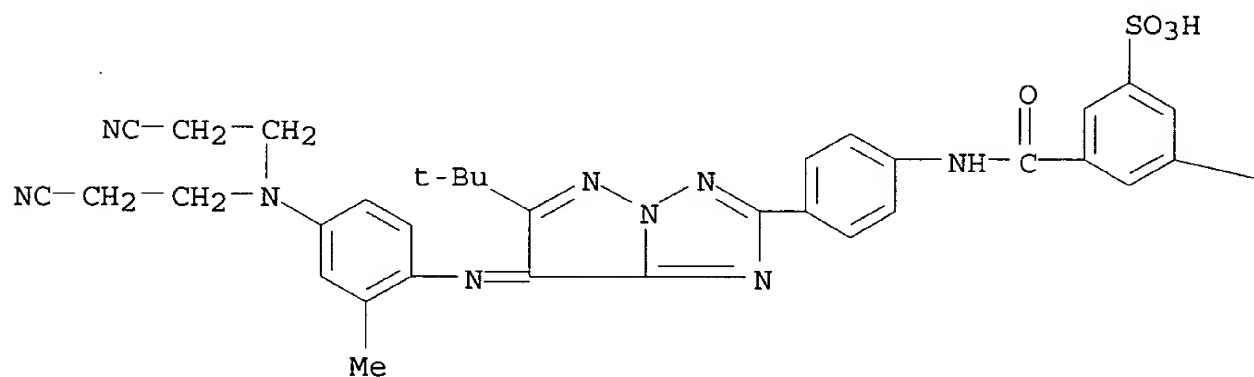
PAGE 1-B

—CH<sub>2</sub>—OH—(CH<sub>2</sub>)<sub>3</sub>—SO<sub>3</sub>H

RN 227466-18-4 HCA

CN 1,3-Benzenedisulfonic acid, 5-[[[4-[7-[[4-[bis(2-cyanoethyl)amino]-2-methylphenyl]imino]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]carbonyl]-, disodium salt (9CI)  
(CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

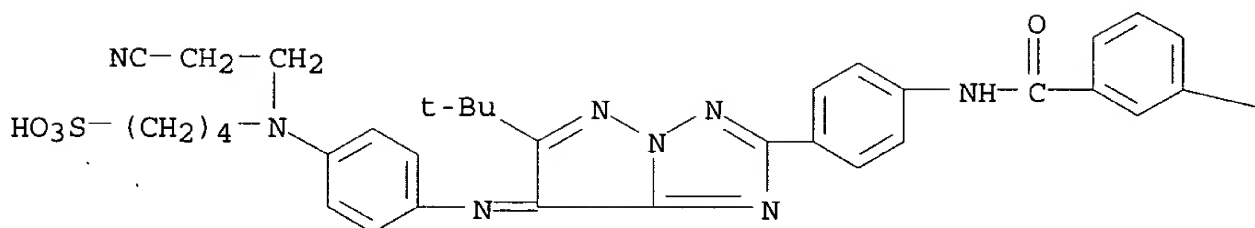
—SO<sub>3</sub>H

RN 227466-19-5 HCA

CN Benzenesulfonic acid, 3-[[[4-[7-[[4-[(2-cyanoethyl)(4-sulfobutyl)amino]phenyl]imino]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]carbonyl]-, disodium salt (9CI)

(CA INDEX NAME)

PAGE 1-A



● 2 Na

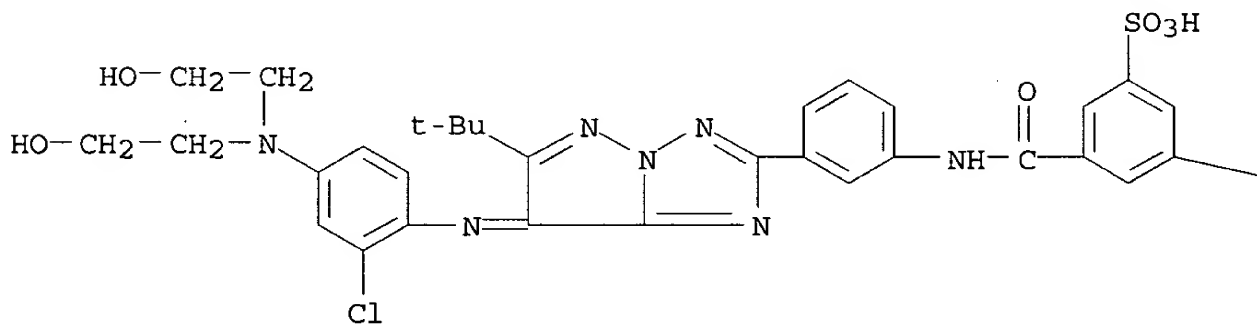
PAGE 1-B

—SO<sub>3</sub>H

RN 227466-20-8 HCA

CN 1,3-Benzenedisulfonic acid, 5-[[[3-[7-[[4-[bis(2-hydroxyethyl)amino]-2-chlorophenyl]imino]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]carbonyl]-, disodium salt (9CI)  
(CA INDEX NAME)

PAGE 1-A



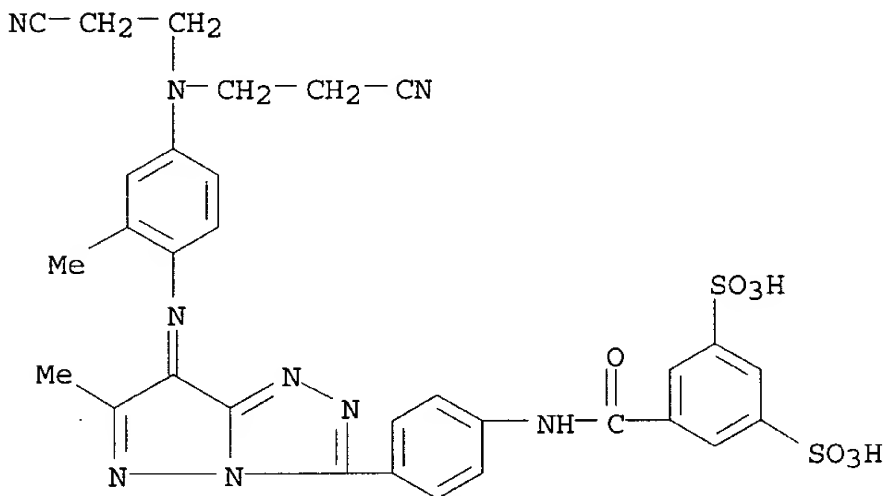
2 Na

PAGE 1-B

—SO<sub>3</sub>H

RN 227466-21-9 HCA

CN 1,3-Benzenedisulfonic acid, 5-[[[4-[7-[[4-[bis(2-cyanoethyl)amino]-2-methylphenyl]imino]-6-methyl-7H-pyrazolo[5,1-c]-1,2,4-triazol-3-yl]phenyl]amino]carbonyl]-, disodium salt (9CI) (CA INDEX NAME)

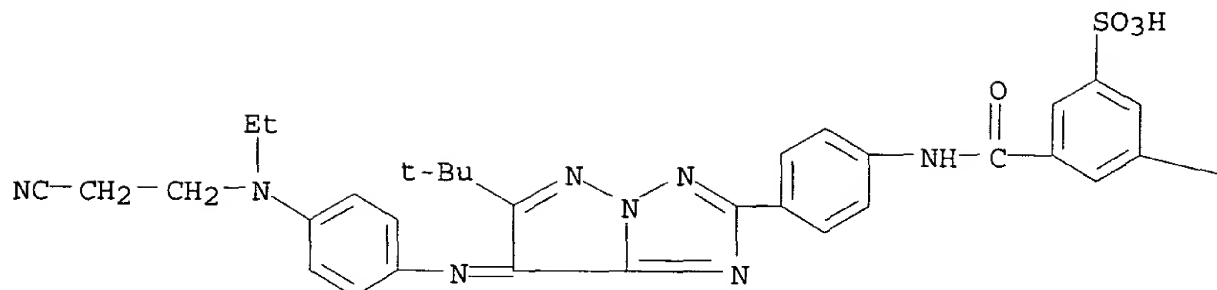


● 2 Na

RN 227466-23-1 HCA

CN 1,3-Benzenedisulfonic acid, 5-[[[4-[7-[[4-[(2-cyanoethyl)ethylamino]phenyl]imino]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]amino]carbonyl]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—SO<sub>3</sub>H

IC ICM C09D011-00  
ICS B41M005-00; C09B026-02; C09B057-00  
CC 42-12 (Coatings, Inks, and Related Products)  
ST pyrazolotriazole dye magenta **ink jet printing**  
IT **Ink-jet printing**  
(**ink-jet magenta inks** contg.  
water-sol. pyrazolotriazole dyes)  
IT **Inks**  
(**jet-printing; ink-jet**  
magenta **inks** contg. water-sol. pyrazolotriazole dyes)  
IT **Dyes**  
(water-sol.; **ink-jet magenta inks**  
contg. water-sol. pyrazolotriazole dyes)  
IT 55447-93-3P  
(**ink-jet magenta inks** contg.  
water-sol. pyrazolotriazole dyes)  
IT 227466-16-2 227466-17-3 227466-18-4  
227466-19-5 227466-20-8 227466-21-9  
227466-23-1  
(**ink-jet magenta inks** contg.  
water-sol. pyrazolotriazole dyes)



IT 19089-55-5  
(reaction with aminophenol deriv.; **ink-jet**  
magenta **inks** contg. water-sol. pyrazolotriazole dyes)  
IT 227466-22-0P  
(reaction with nitroso compd.; **ink-jet**  
magenta **inks** contg. water-sol. pyrazolotriazole dyes)  
IT 152828-25-6  
(reaction with sodiosulfobenzoic acid deriv.; **ink-**  
**jet** magenta **inks** contg. water-sol.  
pyrazolotriazole dyes)

=> d 144 1-20 cbib abs hitstr hitind

L44 ANSWER 1 OF 20 HCA COPYRIGHT 2003 ACS

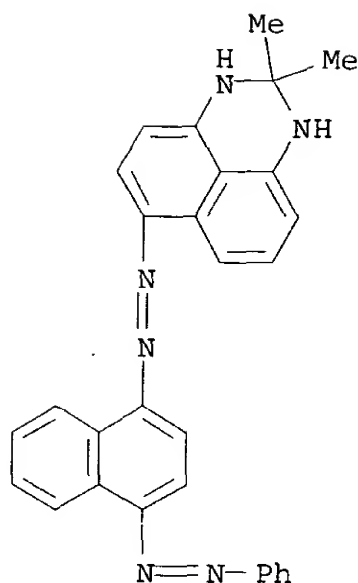
133:90840 Water-thinned **ink-jet inks** with  
good fixation. Sawada, Michitaka; Nakano, Yukihiro; Mizushima,  
Ryuma (Kao Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2000191967 A2  
20000711, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1998-372505 19981228.

AB The inks contain (A) an aq. dispersion of oil-sol. black dyes or  
carbon black encapsulated with vinyl polymers, and (B) an aq.  
dispersion of carbon black having same ion species of A, wherein the  
solids ratio of dispersions A/B is 0.5-8. Thus, an ink contg. an  
aq. dispersion of carbon black encapsulated by a polymer (prepd. by  
polymn. of styrene, Bu acrylate, polyethylene glycol methacrylate,  
acrylonitrile-styrene macromonomer AN-6, dimethylaminoethyl  
methacrylate, 2-hydroxyethyl methacrylate, silicone macromonomer FM  
0711, and neutralizing with gluconic acid) 30, an aq. dispersion of  
ethylpyridinium group-contg. carbon black 20, **glycerol** 5,  
other additives 8, and water 37 parts gave high-d. printing images  
with good resistance to water, soiling, and scratch.

IT 4197-25-5  
(water- and scratch-resistant water-thinned **ink-**  
**jet inks** with good fixation)

RN 4197-25-5 HCA

CN 1H-Perimidine, 2,3-dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-  
naphthalenyl]azo]- (9CI) (CA INDEX NAME)



- IC ICM C09D011-00  
ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, Inks, and Related Products)
- ST carbon black encapsulation ink; water soiling scratch resistance  
**jet printing ink**
- IT Carbon black, uses  
(Printex 90; water- and scratch-resistant water-thinned  
**ink-jet inks** with good fixation)
- IT Dyes  
(black, oil-sol.; water- and scratch-resistant water-thinned  
**ink-jet inks** with good fixation)
- IT **Inks**  
(**jet-printing**, water-thinned; water- and  
scratch-resistant water-thinned **ink-jet**  
**inks** with good fixation)
- IT Macromonomers  
(water- and scratch-resistant water-thinned **ink-**  
**jet inks** with good fixation)
- IT 179912-77-7, 3-Amino-N-ethylpyridinium bromide  
(carbon black treated by; water- and scratch-resistant  
water-thinned **ink-jet inks** with  
good fixation)
- IT 282101-53-5P 282101-55-7P 282101-57-9P  
(water- and scratch-resistant water-thinned **ink-**  
**jet inks** with good fixation)
- IT **4197-25-5**  
(water- and scratch-resistant water-thinned **ink-**  
**jet inks** with good fixation)

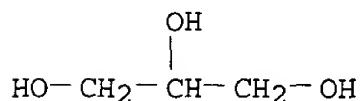
metal complex. Weber, Helmut; Evans, Steven (Eastman Kodak Company, USA). U.S. US 5997622 A 19991207, 9 pp. (English). CODEN: USXXAM. APPLICATION: US 1998-203258 19981201.

AB An **ink jet printing** method comprises the steps of: (A) providing an **ink jet printer** that is responsive to digital data signals; (B) loading the printer with ink-receptive substrates; (C) loading the printer with an **ink jet ink** compn. comprising a carrier and a polyvalent transition metal complex of an 8-(heterocyclylazo)-5-hydroxyquinoline; and (D) printing on an ink-receptive substrate using the **ink jet ink** in response to the digital data signals. The metal complex azo dyes have light stability comparable to that of prior-art dyes and superior color purity. An example for the prodn. of the Ni 1:2 complex of 5-hydroxy-2-methyl-8-(2-pyridylazo)-3-quinolinecarboxylic acid ( $\lambda_{\text{max}}$  552 nm) was provided.

IT 56-81-5, 1,2,3-Propanetriol, uses  
(in azo dye metal complex-based **inks for jet printing**)

RN 56-81-5 HCA

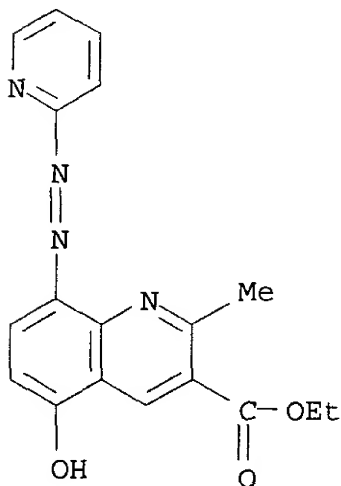
CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



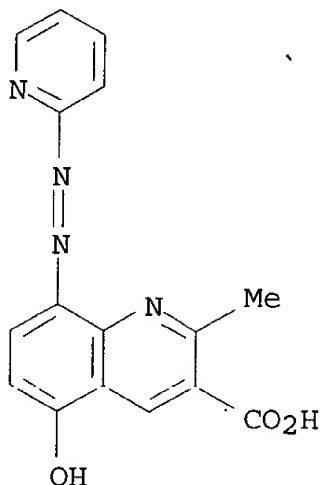
IT 251959-67-8P 251959-68-9P, 5-Hydroxy-2-methyl-8-(2-pyridylazo)-3-quinolinecarboxylic acid  
(intermediate; prodn. of azo dye metal complex for **ink jet printing**)

RN 251959-67-8 HCA

CN 3-Quinolinecarboxylic acid, 5-hydroxy-2-methyl-8-(2-pyridinylazo)-, ethyl ester (9CI) (CA INDEX NAME)

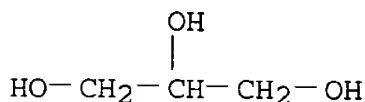


RN 251959-68-9 HCA  
 CN 3-Quinolinecarboxylic acid, 5-hydroxy-2-methyl-8-(2-pyridinylazo)-  
 (9CI) (CA INDEX NAME)

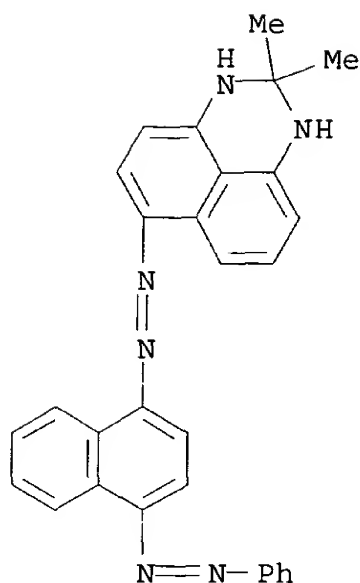


IC ICM C09D011-02  
 NCL 106031480  
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and  
 Photographic Sensitizers)  
 Section cross-reference(s): 42  
 ST azo dye complex prodn **jet printing**; **ink**  
**jet printing** azo dye complex  
 IT Humectants  
 (in azo dye metal complex-based **inks** for **jet**  
**printing**)  
 IT **Inks**  
 (**jet-printing**, water-thinned; prodn. of azo  
 dye metal complexes for)  
 IT **Ink-jet printing**  
 (using azo dye metal complexes)  
 IT Azo dyes  
 (water-sol.; prodn. of azo dye metal complexes for **ink**  
**jet printing**)  
 IT 251959-60-1 251959-61-2 251959-62-3 251959-63-4 251959-64-5  
 251959-66-7  
 (azo dye metal complexes for **ink jet**  
**printing**)  
 IT 56-81-5, 1,2,3-Propanetriol, uses 111-46-6, uses  
 112-34-5, Diethylene glycol monobutyl ether 7732-18-5, Water, uses  
 (in azo dye metal complex-based **inks** for **jet**  
**printing**)  
 IT 251959-67-8P 251959-68-9P, 5-Hydroxy-2-methyl-8-(2-  
 pyridylazo)-3-quinolinecarboxylic acid  
 (intermediate; prodn. of azo dye metal complex for **ink**  
**jet printing**)

- IT 251959-65-6P  
(prodn. of azo dye metal complex for **ink jet printing**)
- IT 4930-98-7, 2-Hydrazinopyridine 6018-89-9, Nickel diacetate tetrahydrate 128958-79-2, Ethyl 5,8-dimethoxy-2-methyl-3-quinolinecarboxylate  
(starting material; prodn. of azo dye metal complex for **ink jet printing**)
- L44 ANSWER 3 OF 20 HCA COPYRIGHT 2003 ACS  
131:230118 Aqueous inks suitable for **ink-jet printing** with freedom from nozzle clogging. Sakuma, Tadashi; Aita, Kenji (Kao Corp., Japan). Jpn. Kokai Tokkyo Koho JP 11256083 A2 19990921 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-58642 19980310.
- AB The inks contain (A) neutralized polyesters having acid no. 1-100 mg-KOH/g, (B) water-insol. pigments which adhere to the A, and (C) water-sol. hydroxy compds. selected from R1R2NXCOOM, R1R2R3N+XCOO- or/and R1R2NCONR3R4 [R1-4 = H, C1-5 alkyl, (optionally amino-substituted) C2-6 acyl; X = C1-5 alkylene; M = H, alkali metal, alk.-earth metals; provided that R1, R2 are not H at the same time], and amino acids or their salts, and are prepd. in an aq.-org. soln. by dispersion, then removing the org. solvent. Thus, mixing a polyester derived from polyoxypropylene 2,2-bis(4-hydroxyphenyl)propane, dimer acids, fumaric acid and trimellitic anhydride, 150, with Oil Black 860 (oil-sol. pigment) 70 dissolved in THF 500, dimethylethanolamine 12.6, and NaOH 1.03, adding water 960, .beta.-naphththalenesulfonic acid-HCHO condensate 3 and N-methylglycine 50 g, mixing and distg. in vacuo to remove THF gave an ink dispersion with good resistance to clogging.
- IT 56-81-5, 1,2,3-Propanetriol, uses  
(neutralizing aids; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- RN 56-81-5 HCA  
CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)

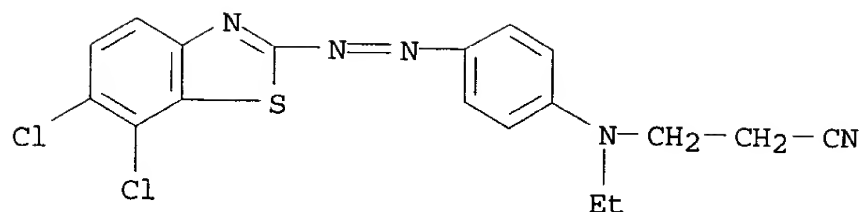


- IT 4197-25-5, Orient Oil Black 860  
(pigment; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- RN 4197-25-5 HCA  
CN 1H-Perimidine, 2,3-dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



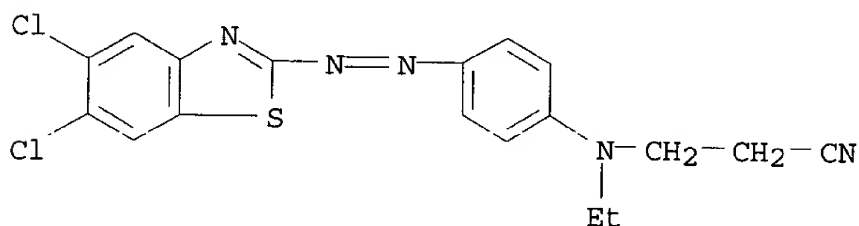
- IC ICM C09D011-00  
ICS B41M005-00; C09D167-00
- CC 42-12 (Coatings, Inks, and Related Products)
- ST anticlogging **ink jet printing**  
**ink** polyester supported pigment; water based **ink**  
**jet printing ink** anticlogging
- IT Amides, uses  
(amino, neutralizing aids; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT Amino acids, uses  
(anticlogging aids; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT Zwitterions  
(aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT Fatty acids, uses  
(dimer acids, polyesters with alkoxyated bisphenol A and other dicarboxylic acids as pigment support; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT **Inks**  
(**jet-printing**; aq. **inks** suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT 57-13-6D, Urea, compds., uses  
(additives; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT 108-01-0, Dimethylethanolamine  
(anticlogging aids; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT 56-81-5, 1,2,3-Propanetriol, uses 57-13-6, Urea, uses

- 107-21-1, 1,2-Ethanediol, uses 107-97-1, N-Methylglycine  
1310-73-2, Sodium hydroxide, uses  
(neutralizing aids; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT 110-17-8D, Fumaric acid, polyesters with alkoxyated bisphenol A and other dicarboxylic acids 552-30-7D, Trimellitic anhydride, polyesters with alkoxyated bisphenol A and other dicarboxylic acids 37353-75-6D, Propoxyated Bisphenol A, polyesters with dimer acids and other dicarboxylic acids 96360-62-2, Ethoxyated bisphenol A-propoxyated bisphenol A-terephthalic acid-trimellitic anhydride copolymer  
(pigment support; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- IT 4197-25-5, Orient Oil Black 860  
(pigment; aq. inks suitable for **ink-jet printing** with freedom from nozzle clogging)
- L44 ANSWER 4 OF 20 HCA COPYRIGHT 2003 ACS  
131:59936 Process for printing textile fiber materials with disperse dyes using the **jet-** and **ink-jet** process. Burglin, Marc; Mheidle, Mickael; Scheibli, Peter (Ciba Specialty Chemicals Holding Inc., Switz.). Eur. Pat. Appl. EP 924335 A1 19990623, 21 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (German). CODEN: EPXXDW. APPLICATION: EP 1998-811210 19981208. PRIORITY: EP 1997-810995 19971217.
- AB Textile fibers are **jet-** and **ink-jet printed** using aq. inks contg. .gtoreq.1 disperse dye, an anionic copolymer and(or) nonionic block copolymer, and a dispersing agent. Suitable disperse dyes included carboxylic acid and(or) sulfo acid group-free nitro, amino, aminoketone, ketonimine, methine, polymethine, diphenylamine, quinoline-, benzimidazole, xanthene, oxazine and coumarin dyes, esp. anthraquinone and azo dyes. Thus, 2.0 parts 4-aniline-3-nitrobenzenesulfonanilide was mixed with 0.3 parts sulfonated condensation product of chloromethyldiphenyl isomer mixt. and naphthalene and 3.0 parts acrylic acid-styrene copolymer and the compn. was ground in a wet mill to give an av. particle size of 0.2-1.0 .mu.m. This paste was then mixed with surfactant 1.0, redispersing agent 3.7, preservative 0.2, moisture holding agent 20.0 and water 69.8 parts to give an ink having a dye content of 2%. A polyester fabric was printed with the ink using an **ink jet printer**, dried and then fixed in super-heated steam at 180.degree.. A brilliant yellow print with good wet- and lightfastness was obtained.
- IT 25150-28-1 25176-89-0  
(disperse dye; process and **inks** for **ink-jet printing** of textile fibers with disperse dyes)
- RN 25150-28-1 HCA  
CN Propanenitrile, 3-[[4-[(6,7-dichloro-2-benzothiazolyl)azo]phenyl]ethylamino]- (9CI) (CA INDEX NAME)



RN 25176-89-0 HCA

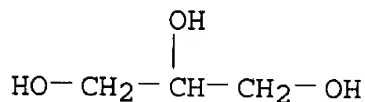
CN Propanenitrile, 3-[[4-[(5,6-dichloro-2-benzothiazolyl)azo]phenyl]ethylamino]- (9CI) (CA INDEX NAME)



IT 56-81-5, 1,2,3-Propanetriol, uses  
(process and inks for ink-jet  
printing of textile fibers with disperse dyes)

RN 56-81-5 HCA

CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



IC ICM D06P005-00

ICS C09D011-00

CC 40-6 (Textiles and Fibers)

ST ink jet printing textile disperse dye;  
polyester fiber ink jet printing

IT Textile printing

Textile printing

(ink-jet; process and inks for  
ink-jet printing of textile fibers  
with disperse dyes)

IT Inks

(jet-printing; process and inks for  
ink-jet printing of textile fibers  
with disperse dyes)

IT Polyester fibers, processes

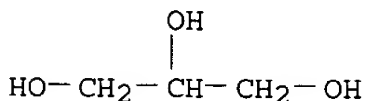
(process and inks for ink-jet  
printing of textile fibers with disperse dyes)

IT Ink-jet printing

Ink-jet printing



- (textile; process and **inks** for **ink-jet printing** of textile fibers with disperse dyes)
- IT 1594-08-7 2872-48-2 5124-25-4, 4-Anilino-3-nitrobenzenesulfonanilide 12217-80-0 13676-91-0 17418-58-5  
18178-47-7 19800-42-1 **25150-28-1 25176-89-0**  
32568-48-2 52372-39-1 227953-54-0  
(disperse dye; process and **inks** for **ink-jet printing** of textile fibers with disperse dyes)
- IT 25085-34-1  
(process and **inks** for **ink-jet printing** of textile fibers with disperse dyes)
- IT **56-81-5**, 1,2,3-Propanetriol, uses 91-20-3D, Naphthalene, reaction products with chloromethyldiphenyl, sulfonated, uses 111-46-6, uses 590-47-6, Betaine monohydrate 2832-19-1, N-Hydroxymethylchloroacetamide 41376-15-2D, reaction products with naphthalene, sulfonated 55348-40-8, Emulphor OPS 25 106392-12-5, Pluronic F108  
(process and **inks** for **ink-jet printing** of textile fibers with disperse dyes)
- L44 ANSWER 5 OF 20 HCA COPYRIGHT 2003 ACS  
129:303802 Water-thinned magenta **inks** for **ink-jet** recording. Ishibashi, Daisuke (Konica Co., Japan).  
Jpn. Kokai Tokkyo Koho JP 10259331 A2 19980929 Heisei, 17  
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-64418  
19970318.
- GI For diagram(s), see printed CA Issue.
- AB The inks contain (A) water-sol. metal complexes formed from hydrophilic group-contg. arom. diazo compds. I [X1 = at. group to form (substituted) 5-7 membered heterocycle; Y1 = OH, CO2H, amino, alkoxy; a = 0-4; Z1 = (substituted) org. group; W1 = NR1, O, S, CR2; R1, R2 = H, (substituted) alkyl], and .gtoreq.1 metal selected from Ni, Co, Cr, and Cu and (B) H2O or water-sol. org. solvents. An ink composed of a Cu(II) complex with II, diethylene glycol, triethylene glycol Bu ether, a surfactant, and H2O gave an image with good light resistance.
- IT **56-81-5**, 1,2,3-Propanetriol, uses  
(solvent; water-thinned magenta **inks** for **ink-jet** recording with good light resistance)
- RN 56-81-5 HCA  
CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



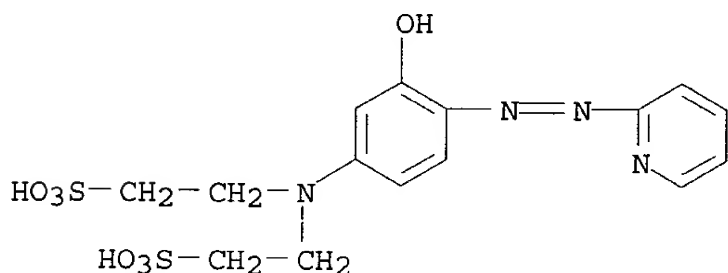
- IT **214406-10-7D**, copper complexes **214406-11-8D**,  
copper complexes **214406-12-9D**, copper complexes  
**214406-13-0D**, chromium complexes **214406-14-1D**,

nickel complexes 214406-15-2D, cobalt complexes  
214406-17-4D, nickel complexes 214406-18-5D,  
nickel complexes 214406-19-6D, cobalt complexes  
214406-20-9D, cobalt complexes

(water-thinned magenta inks for ink-  
jet recording with good light resistance)

RN 214406-10-7 HCA

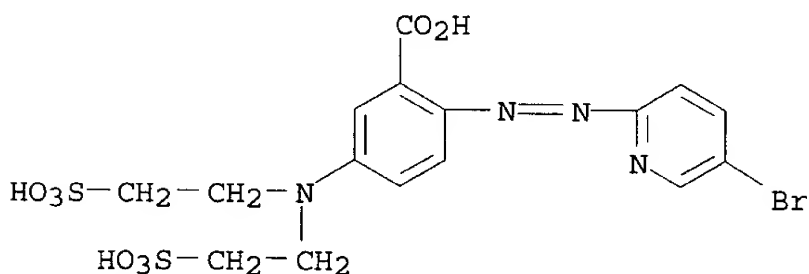
CN Ethanesulfonic acid, 2,2'-[[3-hydroxy-4-(2-  
pyridinylazo)phenyl]imino]bis-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 214406-11-8 HCA

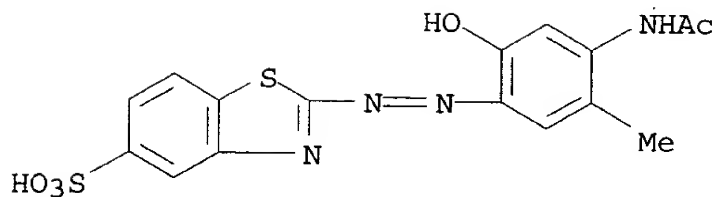
CN Benzoic acid, 5-[bis(2-sulfoethyl)amino]-2-[(5-bromo-2-  
pyridinyl)azo]-, trisodium salt (9CI) (CA INDEX NAME)



● 3 Na

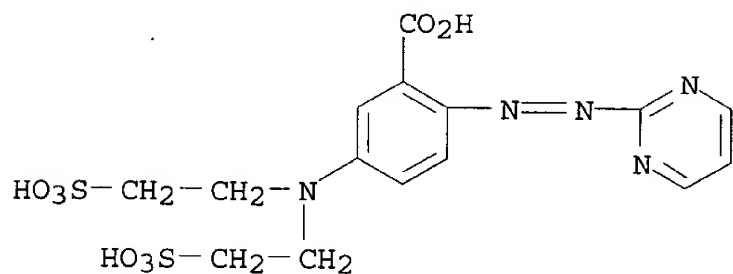
RN 214406-12-9 HCA

CN 5-Benzothiazolesulfonic acid, 2-[[4-(acetylamino)-2-hydroxy-5-  
methylphenyl]azo]-, monosodium salt (9CI) (CA INDEX NAME)



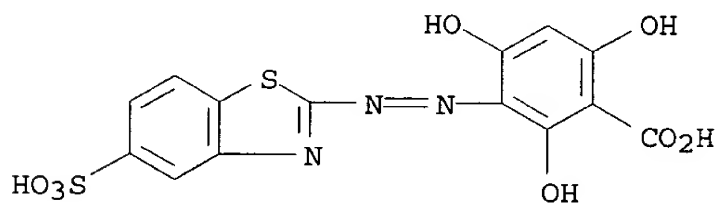
● Na

RN 214406-13-0 HCA  
 CN Benzoic acid, 5-[bis(2-sulfoethyl)amino]-2-(2-pyrimidinylazo)-, trisodium salt (9CI) (CA INDEX NAME)

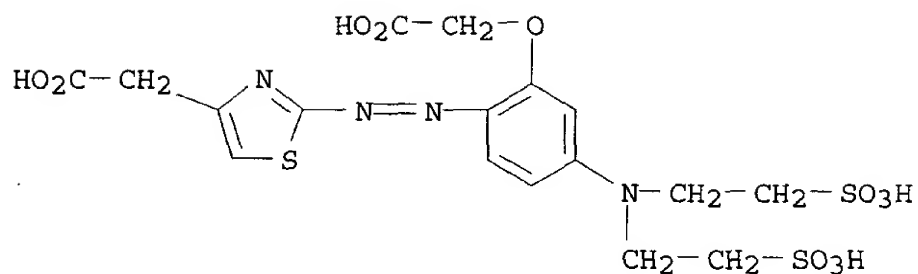


● 3 Na

RN 214406-14-1 HCA  
 CN Benzoic acid, 2,4,6-trihydroxy-3-[(5-sulfo-2-benzothiazolyl)azo]- (9CI) (CA INDEX NAME)



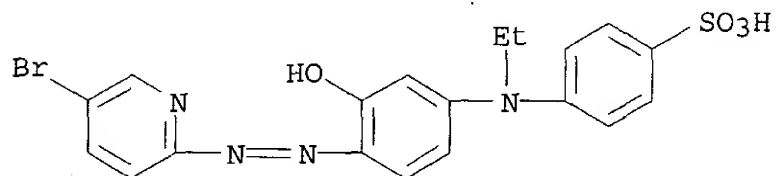
RN 214406-15-2 HCA  
 CN 4-Thiazoleacetic acid, 2-[[4-[[bis(2-sulfoethyl)amino]-2-(carboxymethoxy)phenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

RN 214406-17-4 HCA

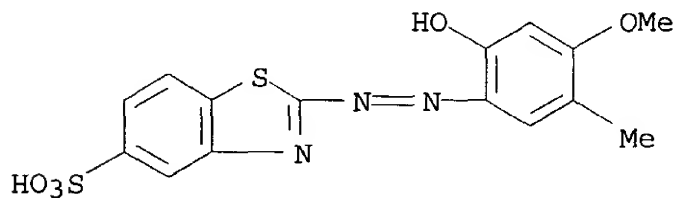
CN Benzenesulfonic acid, 4-[[4-[(5-bromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RN 214406-18-5 HCA

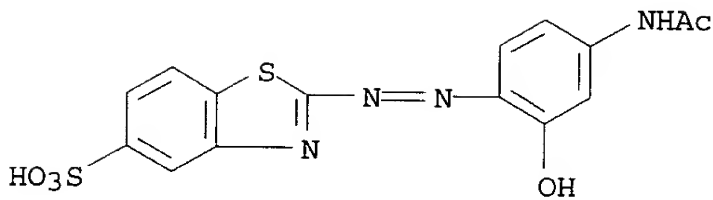
CN 5-Benzothiazolesulfonic acid, 2-[(2-hydroxy-4-methoxy-5-methylphenyl)azo]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RN 214406-19-6 HCA

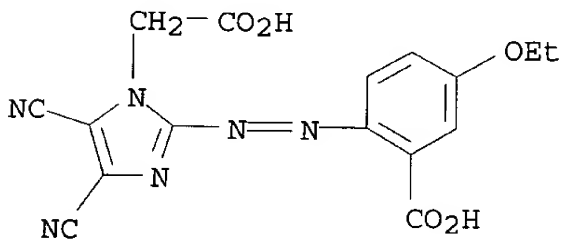
CN 5-Benzothiazolesulfonic acid, 2-[[4-(acetylamino)-2-hydroxyphenyl]azo]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RN 214406-20-9 HCA

CN 1H-Imidazole-1-acetic acid, 2-[(2-carboxy-4-ethoxyphenyl)azo]-4,5-dicyano-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC ICM C09D011-00  
 ICS B41J002-01; C07D213-76; C07D233-64; C07D233-80; C07D233-90;  
 C07D235-30; C07D237-20; C07D239-42; C07D239-84; C07D241-20;  
 C07D263-48; C07D263-58; C07D271-04; C07D283-02; C07D285-135;  
 C07D473-00; C09B045-14

CC 42-12 (Coatings, Inks, and Related Products)

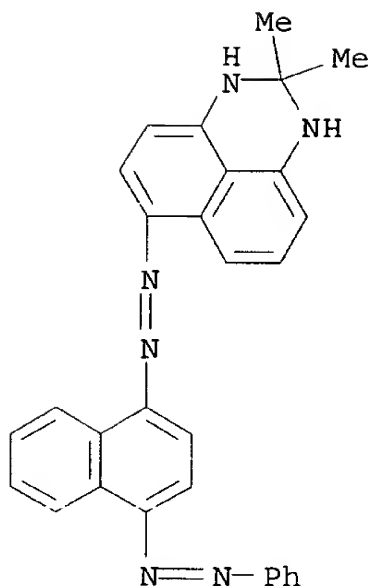
ST magenta water thinned **ink jet printing**  
 ; metal diazo complex magenta ink printing; light resistance magenta  
**jet printing ink**

IT **Inks**  
 (jet-printing, water-thinned; water-thinned  
 magenta **inks** for ink-jet recording  
 with good light resistance)

IT Light-resistant materials  
 (water-thinned magenta **inks** for ink-  
 jet recording with good light resistance)

IT 56-81-5, 1,2,3-Propanetriol, uses 111-29-5,  
 1,5-Pentanediol 111-46-6, uses 143-22-6, Triethylene glycol  
 monobutyl ether 616-45-5, 2-Pyrrolidone  
 (solvent; water-thinned magenta **inks** for ink-

- jet recording with good light resistance)
- IT 7440-02-0D, Nickel, complexes with azo dyes, uses 7440-47-3D, Chromium, complexes with azo dyes, uses 7440-48-4D, Cobalt, complexes with azo dyes, uses 7440-50-8D, Copper, complexes with azo dyes, uses 214406-10-7D, copper complexes 214406-11-8D, copper complexes 214406-12-9D, copper complexes 214406-13-0D, chromium complexes 214406-14-1D, nickel complexes 214406-15-2D, cobalt complexes 214406-16-3D, cobalt complexes 214406-17-4D, nickel complexes 214406-18-5D, nickel complexes 214406-19-6D, cobalt complexes 214406-20-9D, cobalt complexes (water-thinned magenta inks for ink-jet recording with good light resistance)
- L44 ANSWER 6 OF 20 HCA COPYRIGHT 2003 ACS  
129:261861 Abrasion-, light-, and water-resistant water-thinned inks for ink jet recording with no nozzle clogging. Ueda, Takamasa (Minolta Camera Co., Ltd., Peop. Rep. China). Jpn. Kokai Tokkyo Koho JP 10245511 A2 19980914 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-49127 19970304.
- AB The inks contain nonspherical color resin fine powders, which are obtained by dispersing solns. contg. ionic group-contg. resins, org. solvents which can dissolve the resins, vinyl monomers, and coloring agents in aq. media and polyimg. the vinyl monomers while removal of the solvents. Thus, transesterifying di-Me terephthalate 200, di-Me 5-sulfoisophthalate Na salt 10, ethylene glycol 150, and tricyclodecanedimethanol 30 parts, blending 100 parts of the resulting polyester with MEK 250, THF 250, a 7:3 styrene-Bu methacrylate mixt. 50, C.I. Disperse Blue 87 conc. cake 100 parts, and AIBN, adding 1000 parts H2O to the mixt., polyimg. the monomers while removal of the solvents under heating, cooling, and dilg. with H2O gave a finely dispersed colored resin soln. with av. particle size 0.2 .mu.m. An aq. ink contg. 10% of the resin and 15% glycerol gave a sharp image with excellent abrasion, light, and water resistance.
- IT 4197-25-5, C.I. Solvent Black 3 (abrasion-, light-, and water-resistant water-thinned inks for ink jet recording with no nozzle clogging)
- RN 4197-25-5 HCA  
CN 1H-Perimidine, 2,3-dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



- IC ICM C09D011-00  
ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, Inks, and Related Products)
- ST ionic polyester styrene polymer ink dispersibility; light resistance  
ink polyester styrene polymer; water resistance ink polyester  
styrene polymer; abrasion resistance ink polyester styrene polymer;  
**anticlogging jet printing ink**  
polyester powder
- IT Carbon black, uses  
(Microjet C; abrasion-, light-, and water-resistant water-thinned  
**inks for ink jet** recording with no  
nozzle clogging)
- IT Light-resistant materials  
Water-resistant materials  
(abrasion-, light-, and water-resistant water-thinned  
**inks for ink jet** recording with no  
nozzle clogging)
- IT Polyesters, uses  
(abrasion-, light-, and water-resistant water-thinned  
**inks for ink jet** recording with no  
nozzle clogging)
- IT **Inks**  
(**jet-printing**, water-thinned; abrasion-,  
light-, and water-resistant water-thinned **inks for**  
**ink jet** recording with no nozzle clogging)
- IT 25213-39-2P, Butyl methacrylate-styrene copolymer 213381-36-3P,  
Dimethyl 5-sodiosulfoisophthalate-dimethyl terephthalate-ethylene  
glycol-tricyclodecanedimethanol copolymer  
(abrasion-, light-, and water-resistant water-thinned  
**inks for ink j t** recording with no  
nozzle clogging)

IT 4197-25-5, C.I. Solvent Black 3 13418-49-0, C.I. Disperse  
Blue 87 65777-18-6, C.I. Disperse Yellow 162 72363-26-9, C.I.  
Disperse Red 92

(abrasion-, light-, and water-resistant water-thinned  
inks for ink jet recording with no  
nozzle clogging)

L44 ANSWER 7 OF 20 HCA COPYRIGHT 2003 ACS

128:76555 Heat transferring inkjet ink images. Bishop, John  
F.; Simons, Michael J.; Brick, Mary C. (Eastman Kodak Co., USA).  
U.S. US 5698018 A 19971216, 6 pp. (English). CODEN:  
USXXAM. APPLICATION: US 1997-790131 19970129.

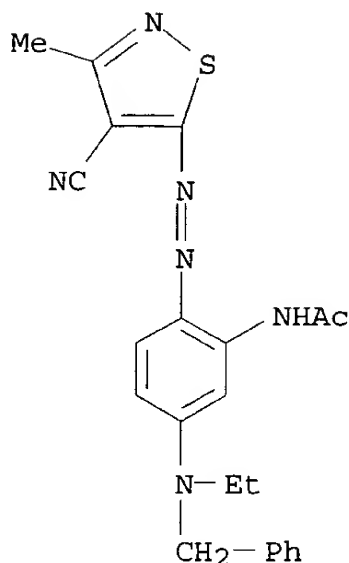
AB A method of transferring a pigmented image comprises providing a  
donor element bearing an inkjet printed image contg.  
.gtoreq.1 heat transferable pigment selected from the group  
consisting of 2-(N-methylcarbamy1)-4-(4-N,N-diethylaminophenylimino)-  
1,4-naphthoquinone (I), 2-(N-methylcarbamy1)-4-(4-N,N-diethylamino-2-  
methylphenylimino)-1,4-naphthoquinone, 1-phenyl-3-N,N-dimethylamino-  
4-(4-N,N-diethylaminobenzylidene)pyrazoline-5-one,  
N-ethyl-N-benzyl-3-acetamido-4-(3-methyl-4-cyanoisothiazol-5-  
ylazo)aniline, N-(2-((2,6-dicyano-4-methylphenyl)azo)-5-  
(diethylamino)phenyl)methanesulfonamide, N-(2-((2,6-dicyano-4-  
methylphenyl)azo)-5-(dipropylamino)phenyl)methanesulfonamide,  
contacting the donor element with an image receiving element, and  
transferring the heat transferable image to the image receiving  
element by applying heat to the donor element. Thus, an ink for  
printing a polyester-cotton white T shirt contained H2O, I, Luviskol  
K-30, a biocide, diethylene glycol, and glycerin.

IT 112940-69-9  
(heat transferring inkjet ink images contg. pigments on  
T-shirts)

RN 112940-69-9 HCA

CN Acetamide, N-[2-[(4-cyano-3-methyl-5-isothiazolyl)azo]-5-  
[ethyl(phenylmethyl)amino]phenyl]- (9CI) (CA INDEX NAME)





IC ICM C09D011-00

NCL 106031750

CC 40-6 (Textiles and Fibers)

Section cross-reference(s): 42

ST thermal transfer printing shirt; pigment **jet printing ink**

IT Textiles

(cotton-polyester; heat transferring **inkjet** ink images contg. pigments on T-shirts)

IT Pigments, nonbiological

(heat transferring **inkjet** ink images contg. pigments on T-shirts)

IT Thermal-transfer printing materials

(inks; heat transferring **inkjet** ink images contg. pigments on T-shirts)

IT **Inks**

(**jet-printing**; heat transferring **inkjet** ink images contg. pigments on T-shirts)

IT **Inks**

(printing, thermal-transfer; heat transferring **inkjet** ink images contg. pigments on T-shirts)

IT 4899-82-5 68385-96-6 72968-82-2 102187-53-1

112940-69-9 125888-49-5

(heat transferring **inkjet** ink images contg. pigments on T-shirts)

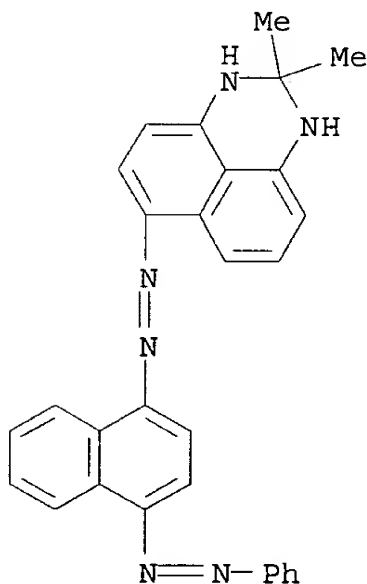
L44 ANSWER 8 OF 20 HCA COPYRIGHT 2003 ACS

127:36071 Water-thinned **ink-jet inks**

containing dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation. Sakuma, Tadashi; Ueno, Tetsuya; Kawabe, Kuniyasu (Kao Corporation, Japan; Sakuma,

Tadashi; Ueno, Tetsuya; Kawabe, Kuniyasu). PCT Int. Appl. WO 9716495 A1 19970509, 40 pp. DESIGNATED STATES: W: US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1996-JP3128 19961025. PRIORITY: JP 1995-282204 19951030; JP 1996-266860 19961008.

- AB Title inks comprise a suspension of a dye- or pigment-adsorbed polymer at  $\gamma \cdot \eta \cdot d = 0.1-11$  at 20.degree., ( $\gamma$  = surface tension in dyne/cm;  $\eta$  = viscosity in cP;  $d$  = mean particle diam. in  $\mu$ m). Thus, a 20% water-thinned suspension [prepd. from polyoxypropylene(2,2)-2,2-bis(4-hydroxyphenyl)propane-maleic acid-hydroquinone copolymer mixed with Oil Black 860 and MEK, carboxy-ionized by dimethylethanolamine, and dispersed by Demol N] 85, ethanolamine 2, diethylene glycol 10, **glycerin** 2.5, and Acetylenol EL 0.5g were mixed and filtered to obtain an **ink-jet ink** with  $\gamma \cdot \eta \cdot d$  1.4.
- IT 4197-25-5, Orient Oil Black 860  
(dye; water-thinned **ink-jet inks**  
contg. dye-adsorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)
- RN 4197-25-5 HCA
- CN 1H-Perimidine, 2,3-dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



- IC ICM C09D011-00
- CC 42-12 (Coatings, Inks, and Related Products)
- IT Polysiloxanes, uses  
(KM 71, defoamer; water-thinned **ink-jet inks** contg. dye-adsorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)
- IT Carbon black, uses  
(dye; water-thinned **ink-jet inks**)

contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)

IT **Inks**

(**jet-printing**, water-thinned; **ink-jet inks** contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)

IT Polyamides, uses

Polyesters, uses

(water-thinned **ink-jet inks** contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)

IT 51023-30-4, Demol N

(dispersant; water-thinned **ink-jet inks** contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)

IT 509-34-2, Oil Pink 312 4197-25-5, Orient Oil Black 860

6483-64-3, Oil Scarlet 308 6706-82-7, Orient Oil Yellow 129

12237-24-0, Valifast Blue 2606 104244-10-2, Neopen Yellow 075

(dye; water-thinned **ink-jet inks** contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)

IT 65421-52-5 190733-03-0 190733-05-2 190733-07-4

(water-thinned **ink-jet inks** contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)

L44 ANSWER 9 OF 20 HCA COPYRIGHT 2003 ACS

126:213486 Recording liquids containing azo dyes suitable for

**ink-jet** recording. Sano, Hideo; Takimoto,

Hiroshi; Nishimura, Toru; Yamada, Masahiro; Hirasa, Takashi

(Mitsubishi Chemical Corporation, Japan). Eur. Pat. Appl. EP 757087

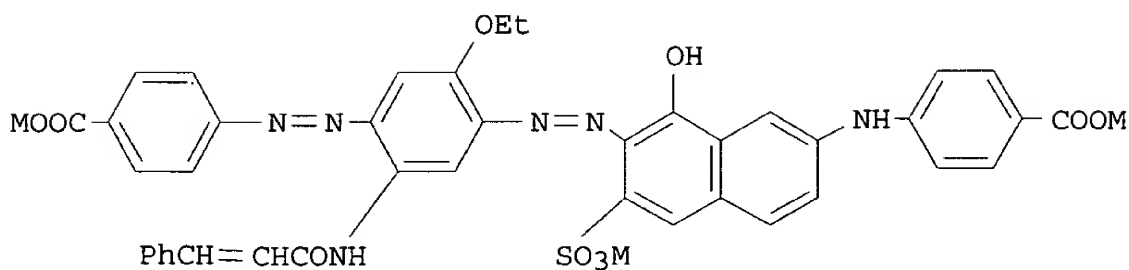
A2 19970205, 48 pp. DESIGNATED STATES: R: DE, GB.

(English). CODEN: EPXXDW. APPLICATION: EP 1996-305103 19960711.

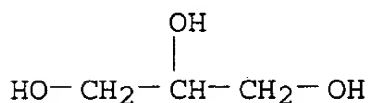
PRIORITY: JP 1995-178447 19950714; JP 1995-299450 19951117; JP

1995-302523 19951121; JP 1995-331825 19951220.

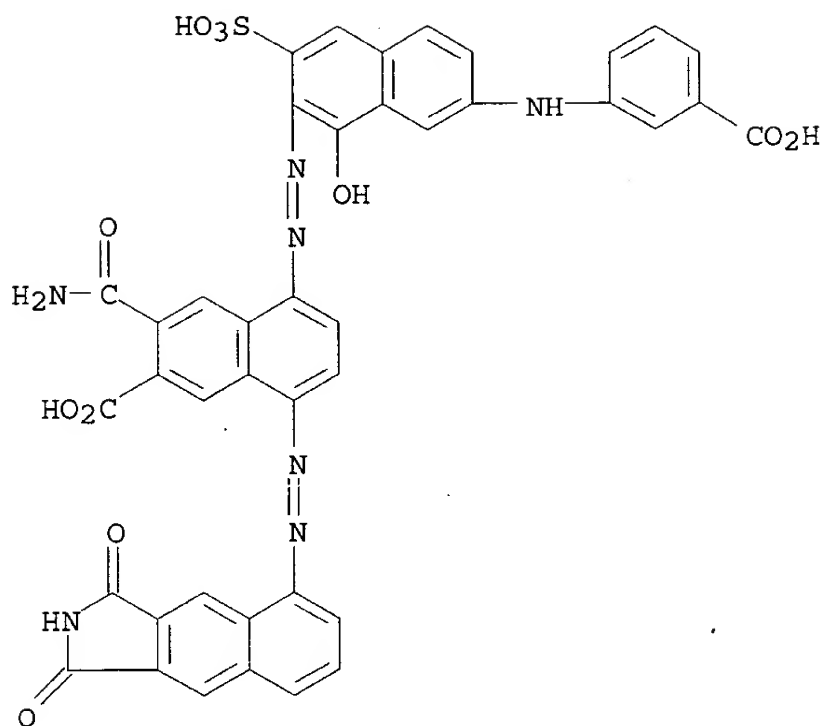
GI



- AB A recording liq. comprises an aq. medium and .gtoreq.1 azo dye of a particular formula, and can form recorded images when used in an **ink-jet** recording method with high printing quality, high d., good color tone and good water and light resistance. The compn. has good storage stability. An ink contained water, diethylene glycol, iso-Pr alc., and I (M = NH<sub>4</sub>).
- IT 56-81-5, 1,2,3-Propanetriol, uses  
(recording liqs. contg. azo dyes suitable for **ink-jet** recording)
- RN 56-81-5 HCA
- CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)

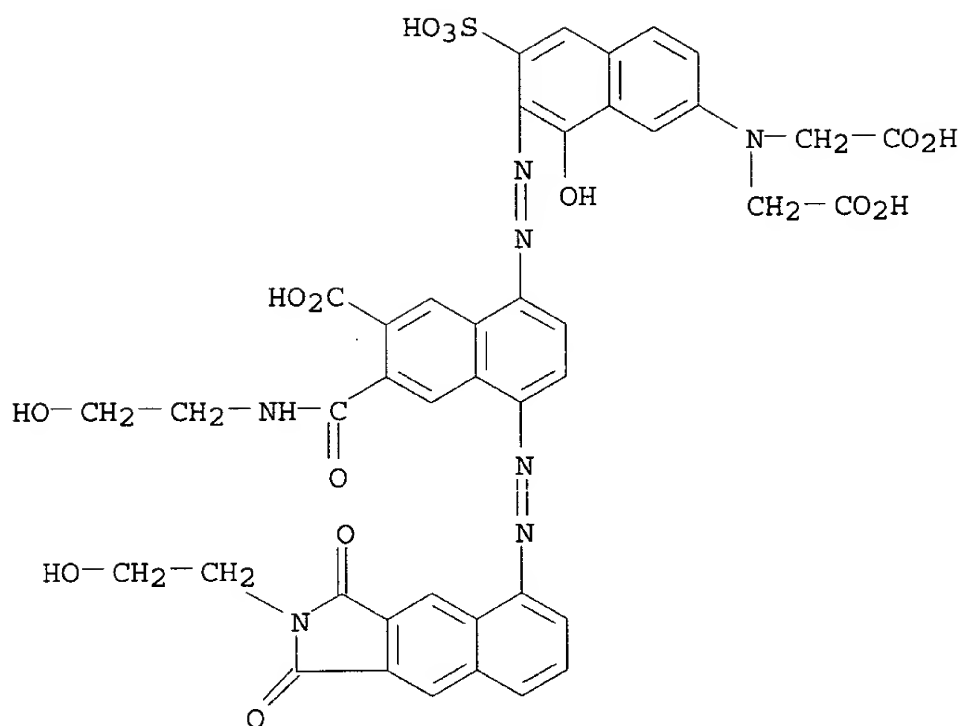


- IT 188036-07-9 188036-08-0 188036-15-9  
188036-16-0  
(recording liqs. contg. azo dyes suitable for **ink-jet** recording)
- RN 188036-07-9 HCA
- CN 2-Naphthalenecarboxylic acid, 3-(aminocarbonyl)-5-[[7-[(3-carboxyphenyl)amino]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-8-[(2,3-dihydro-1,3-dioxo-1H-benz[f]isoindol-5-yl)azo]- (9CI) (CA INDEX NAME)



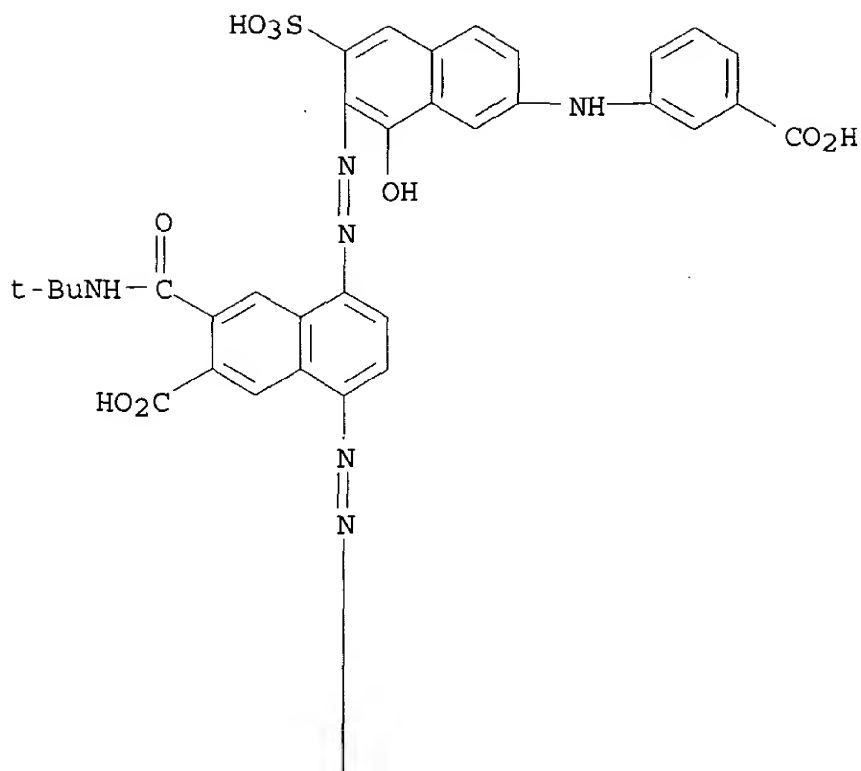
RN 188036-08-0 HCA

CN 2-Naphthalenecarboxylic acid, 8-[[7-[bis(carboxymethyl)amino]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-5-[[2,3-dihydro-2-(2-hydroxyethyl)-1,3-dioxo-1H-benz[f]isoindol-5-yl]azo]-3-[[2-hydroxyethyl]amino]carbonyl]- (9CI) (CA INDEX NAME)

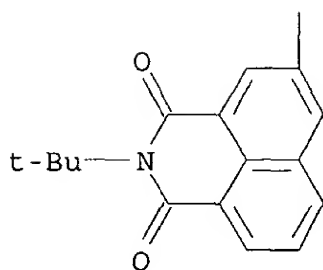


RN	188036-15-9	HCA
CN	2-Naphthalenecarboxylic acid, 5-[[7-[(3-carboxyphenyl)amino]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-3-[[[(1,1-dimethylethyl)amino]carbonyl]-8-[[2-(1,1-dimethylethyl)-2,3-dihydro-1,3-dioxo-1H-benz[de]isoquinolin-5-yl]azo]- (9CI) (CA INDEX NAME)	

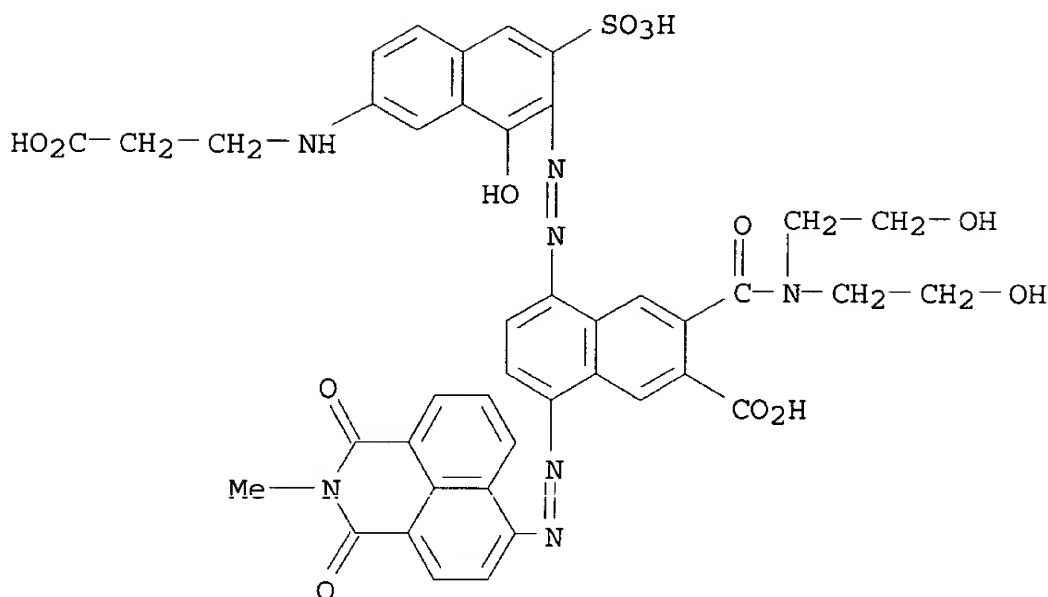
PAGE 1-A



PAGE 2-A



RN 188036-16-0 HCA  
 CN 2-Naphthalenecarboxylic acid, 3-[[bis(2-hydroxyethyl)amino]carbonyl]-  
 5-[[7-[(2-carboxyethyl)amino]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-  
 8-[(2,3-dihydro-2-methyl-1,3-dioxo-1H-benz[de]isoquinolin-6-yl)azo]-  
 (9CI) (CA INDEX NAME)



IC ICM C09D011-00  
ICS B41J002-01

CC 42-12 (Coatings, Inks, and Related Products)

ST **ink jet** recording compn; azo dye aq **jet ink**

IT **Inks**  
(**jet-printing**; recording liqs. contg. azo dyes suitable for **ink-jet** recording)

IT Azo dyes  
(recording liqs. contg. azo dyes suitable for **ink-jet** recording)

IT Polyoxyalkylenes, uses  
(recording liqs. contg. azo dyes suitable for **ink-jet** recording)

IT 56-81-5, 1,2,3-Propanetriol, uses 57-55-6, 1,2-Propanediol, uses 64-17-5, Ethanol, uses 67-63-0, Isopropyl alcohol, uses 67-68-5, uses 80-73-9 102-71-6, uses 107-21-1, 1,2-Ethanediol, uses 109-86-4, Ethylene glycol monomethyl ether 111-45-5 111-46-6, uses 111-48-8 111-77-3, Diethylene glycol monomethyl ether 112-27-6 126-33-0, Sulfolane 616-45-5, 2-Pyrrolidone 872-50-4, NMP, uses 2687-91-4, N-Ethylpyrrolidone 7732-18-5, Water, uses 25265-75-2, Butylene glycol 25322-68-3  
(recording liqs. contg. azo dyes suitable for **ink-jet** recording)

IT	188035-52-1	188035-53-2	188035-54-3	188035-55-4	188035-57-6
	188035-58-7	188035-59-8	188035-61-2	188035-62-3	188035-63-4
	188035-64-5	188035-65-6	188035-66-7	188035-67-8	188035-69-0
	188035-70-3	188035-71-4	188035-72-5	188035-74-7	188035-75-8
	188035-76-9	188035-77-0	188035-78-1	188035-80-5	188035-81-6
	188035-82-7	188035-83-8	188035-84-9	188035-85-0	188035-86-1



188035-87-2	188035-88-3	188035-89-4	188035-90-7	188035-91-8
188035-92-9	188035-93-0	188035-94-1	188035-95-2	188035-96-3
188035-97-4	188035-98-5	188035-99-6	188036-00-2	188036-01-3
188036-02-4	188036-03-5	188036-04-6	188036-05-7	188036-06-8
188036-07-9	188036-08-0	188036-09-1		
188036-10-4	188036-11-5	188036-12-6	188036-13-7	188036-14-8
188036-15-9	188036-16-0	188036-17-1		
188036-18-2	188036-19-3	188036-20-6	188036-21-7	188036-22-8
188036-23-9	188036-24-0	188036-25-1	188036-26-2	188036-27-3
188036-28-4	188036-29-5	188036-30-8	188036-31-9	188036-32-0
188036-33-1	188036-34-2	188036-35-3	188036-36-4	188036-37-5
188036-38-6	188036-39-7	188036-40-0	188036-41-1	188036-42-2
188036-43-3	188036-44-4	188036-45-5	188036-46-6	188036-47-7
188036-48-8	188036-49-9	188036-50-2	188036-51-3	188036-52-4

(recording liqs. contg. azo dyes suitable for **ink-jet** recording)

L44 ANSWER 10 OF 20 HCA COPYRIGHT 2003 ACS

125:171179 Aqueous bubble-**jet inks**, **ink-**

**jet printing** method, and printing apparatus.

Noguchi, Hiromichi; Takaide, Fumi; Shiota, Kinu; Koike, Shoji; Haruta, Masahiro; Yamamoto, Tomoya; Suzuki, Mariko (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08143803 A2 19960604 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-307134 19941117.

AB Aq. dispersion **inks** for bubble-**jet**

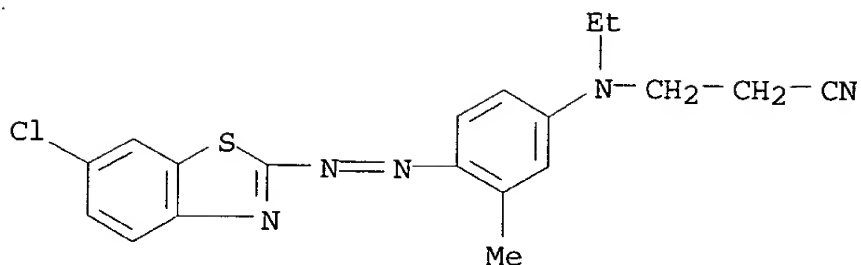
**printing** comprise (1) water, (2) water-sol. org. solvents, (3) pigments or pigment dispersions comprising dispersible pigments and anionic leaving group-contg. polymer dispersants, and (4) surfactants which have HLB .gtoreq.14 and are ethylene oxide adducts with fatty acid amines or fatty acid amides. 40 Parts of an aq. polymer soln. contg. 20 wt.% styrene-methacrylic acid-Et acrylate copolymer with acid value 400 and wt.-av. mol. wt. 6000 and KOH as neutralizing agent was mixed with carbon black 24, **glycerin** 15, ethylene glycol monobutyl ether 0.5, iso-Pr alc. 3, and water 117.5 parts to give a black dispersion, 32 parts of which was dild. with 68 parts water and mixed with 0.3 part of N,N-di(poxyethylene)hexadecylamine with av. of 8 oxyethylene units in each of the polyether chain and having HLB 15.1 to provide a black ink. **Ink-jet printing** method using such inks and printing app. are also claimed.

IT 78564-86-0, C.I. Disperse Red 152

(aq. bubble-**jet inks** for **ink-jet printing**)

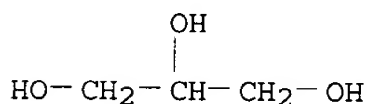
RN 78564-86-0 HCA

CN Propanenitrile, 3-[[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]-3-methylphenyl]ethylamino]- (9CI) (CA INDEX NAME)



D1-Cl

IT 56-81-5, 1,2,3-Propanetriol, uses  
 (aq. bubble-jet inks for ink-  
 jet printing)  
 RN 56-81-5 HCA  
 CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



IC ICM C09D011-00  
 ICS B41J002-01; B41M005-00  
 CC 42-12 (Coatings, Inks, and Related Products)  
 ST ink aq bubble jet printing; ethylene  
 oxide adduct fatty amine surfactant  
 IT Carbon black, uses  
 (aq. bubble-jet inks for ink-  
 jet printing)  
 IT Printing, nonimpact  
 (ink-jet, aq. bubble-jet  
 inks for ink-jet printing)  
 IT Printing apparatus  
 (ink-jet, aq. bubble-jet  
 inks for ink-jet printing  
 and printing app.)  
 IT Inks  
 (jet-printing, aq. bubble-jet  
 inks for ink-jet printing)  
 IT 147-14-8, Fastogen Blue FGF 980-26-7, Pigment Red 122 1328-53-6,  
 C.I. Pigment Green 7 4051-63-2, C.I. Pigment Red 177 5045-40-9,  
 C.I. Pigment Yellow 109 6358-31-2, Pigment Yellow 74 12217-80-0,  
 C.I. Disperse Blue 60 17741-63-8, C.I. Pigment Violet 37  
 77804-81-0, Pigment Yellow 180 78564-86-0, C.I. Disperse  
 Red 152 88651-03-0, C.I. Disperse Yellow 224  
 (aq. bubble-jet inks for ink-  
 jet printing)

IT 25035-68-1, Ethyl acrylate-methacrylic acid-styrene copolymer  
 25585-77-7, Acrylic acid-ethyl acrylate-styrene copolymer  
 25586-20-3, Acrylic acid-butyl acrylate-styrene copolymer  
 25767-39-9, Acrylic acid-methyl methacrylate-styrene copolymer  
 85884-66-8

(aq. bubble-jet inks for ink-jet printing)

IT 56-81-5, 1,2,3-Propanetriol, uses 64-17-5, Ethanol, uses  
 67-63-0, 2-Propanol, uses 97-99-4, Tetrahydrofurfuryl alcohol  
 107-21-1, 1,2-Ethanediol, uses 107-41-5, Hexylene glycol  
 111-46-6, uses 111-76-2, Ethylene glycol monobutyl ether  
 112-27-6 112-34-5, Diethylene glycol monobutyl ether 143-22-6,  
 Triethyleneglycol monobutyl ether 513-85-9, 2,3-Butanediol  
 3068-00-6, 1,2,4-Butanetriol

(aq. bubble-jet inks for ink-jet printing)

IT 26635-92-7 26635-94-9 31017-83-1 34410-18-9 180634-06-4  
 (surfactant; aq. bubble-jet inks for ink-jet printing)

L44 ANSWER 11 OF 20 HCA COPYRIGHT 2003 ACS

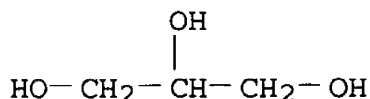
124:148957 Water- and feathering-resistant jet printing inks, their manufacture, and image formation process. Oota, Hitoshi (Seiko Epson Corp, Japan). Jpn. Kokai Tokkyo Koho JP 07305012 A2 19951121 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-98865 19940512.

AB The title inks are based on oil-sol. metal complex dyes, H<sub>2</sub>O, and H<sub>2</sub>O-sol. org. solvents and contain 0.01-20% (based on the dyes) .gtoreq.1 inorg. salts comprising alkali metals, alk. earth metals, or multivalent metals. In the manufg. process comprising (1) prepg. solns. of the dyes in org. solvents and (2) blending the resulting solns. with aq. solns., the inorg. salts are added in either process. Thus, 5.0 g Aizen Spilon Black RLH was dissolved in 10.0 g N-methyl-2-pyrrolidone to give a soln. which was added to an aq. soln. of 0.05 g NaCl to give an ink, which gave a clear image with no feathering and good H<sub>2</sub>O resistance.

IT 56-81-5, Glycerol, uses 4197-25-5, Orient Oil Black HBB  
 (jet printing inks for image formation with good feathering and water resistance)

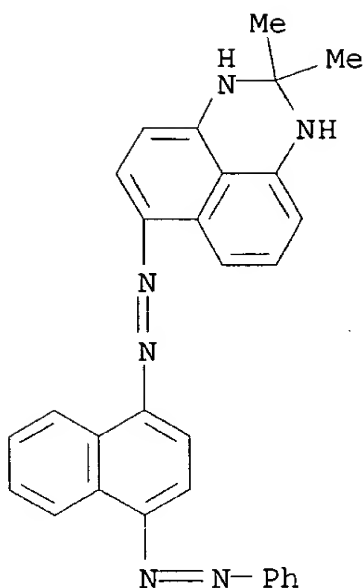
RN 56-81-5 HCA

CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



RN 4197-25-5 HCA

CN 1H-Perimidine, 2,3-dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



- IC ICM C09D011-00  
ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, Inks, and Related Products)
- ST **jet printing ink** feathering  
resistance; water resistance **ink jet**  
**printing**
- IT **Inks**  
(**jet-printing, jet printing**  
**inks** for image formation with good feathering and water  
resistance)
- IT 7447-39-4, Copper(II) chloride, uses 7447-41-8, Lithium chloride,  
uses 7646-85-7, Zinc chloride, uses 7647-14-5, Sodium chloride,  
uses 7778-18-9, Calcium sulfate 7787-47-5, Beryllium chloride  
7790-69-4, Lithium nitrate 10028-22-5, Iron(III) sulfate  
10043-01-3, Aluminum sulfate 10377-60-3, Magnesium nitrate  
10377-66-9, Manganese nitrate 13462-88-9, Nickel bromide  
13765-19-0, Calcium chromate 35112-53-9, Barium thiosulfate  
(**jet printing inks** for image  
formation with good feathering and water resistance)
- IT **56-81-5, Glycerol**, uses 64-17-5, Ethanol, uses  
67-68-5, Dimethyl sulfoxide, uses 96-48-0, .gamma.-Butyrolactone  
98-00-0, Furfuryl alcohol 107-21-1, Ethylene glycol, uses  
107-41-5, 2-Methyl-2,4-pentanediol 111-46-6, Diethylene glycol,  
uses 616-45-5, 2-Pyrrolidone **4197-25-5, Orient Oil Black**  
HBB 10343-55-2, Vali Fast Yellow 3104 11099-03-9, Orient Spirit  
Black AB 12226-78-7, Orasol Blue GN 12237-23-9, Orasol Black CN  
39290-76-1, Aizen Spilon Red GEH 85568-35-0, Aizen Spilon Black  
RLH  
(**jet printing inks** for image  
formation with good feathering and water resistance)
- IT 872-50-4, N-Methyl-2-pyrrolidone, uses  
(**jet printing inks** for image

formation with good feathering and water resistance)

L44 ANSWER 12 OF 20 HCA COPYRIGHT 2003 ACS

124:11162 Aqueous **jet-printing inks**.

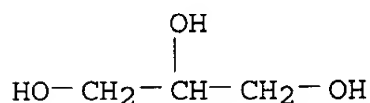
Itoh, Hiroshi (Seiko Epson Corp., Japan). PCT Int. Appl. WO 9521897 A1 19950817, 50 pp. DESIGNATED STATES: W: JP, US; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1995-JP206 19950214. PRIORITY: JP 1994-17570 19940214; JP 1994-171297 19940722.

AB Title inks, having fast dryability and water resistance, contain water-insol. pigment and water-sol. org. solvents without the dispersants. The stable ink compns. can be obtained without requiring a step of dispersing the pigments by a ball mill or the like. Mixing and heating Oleosol black AR 5, N-methyl-2-pyrrolidone 10, and thiodiglycol 5 g, dilg. with 80 g water, and filtering gave an ink with dispersing stability at 60.degree. for 1 mo.

IT 56-81-5, 1,2,3-Propanetriol, uses  
(solvent; water-insol. pigment- and water-sol. org. solvent-contg. aq. inks with dispersion stability and water resistance)

RN 56-81-5 HCA

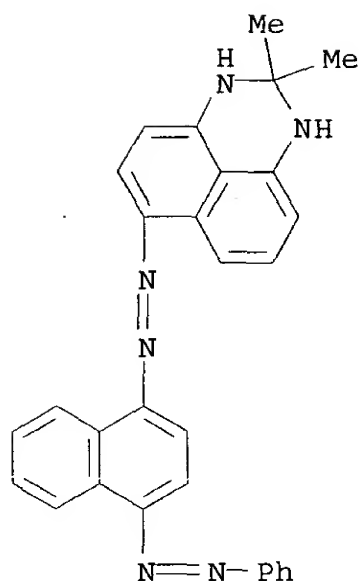
CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



IT 4197-25-5, Aizen sot black 6  
(water-insol. pigment- and water-sol. org. solvent-contg. aq. inks with dispersion stability and water resistance)

RN 4197-25-5 HCA

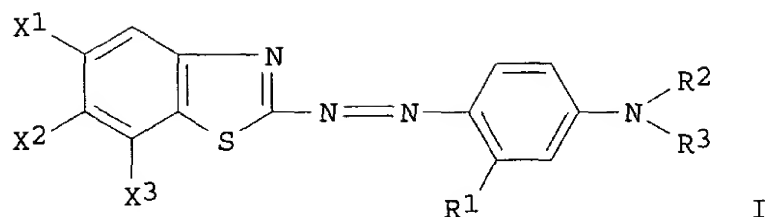
CN 1H-Perimidine, 2,3-dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



IC ICM C09D011-00  
 CC 42-12 (Coatings, Inks, and Related Products)  
 ST **jet printing ink** water insol pigment  
 IT **Inks**  
     (**jet-printing**, water-insol. pigment- and  
     water-sol. org. solvent-contg. aq. inks with dispersion stability  
     and water resistance)  
 IT **56-81-5**, 1,2,3-Propanetriol, uses 96-48-0,  
     gamma.-Butyrolactone 107-21-1, 1,2-Ethanediol, uses 111-48-8,  
     Thiodiglycol 616-45-5, 2-Pyrrolidone 872-50-4,  
     N-Methyl-2-pyrrolidone, uses  
     (solvent; water-insol. pigment- and water-sol. org.  
     solvent-contg. aq. inks with dispersion stability and water  
     resistance)  
 IT 128-85-8, Oleosol blue G 509-34-2, Aizen sot pink 1 1328-54-7,  
     Aizen sot blue 1 2379-74-0 4118-16-5 **4197-25-5**, Aizen  
     sot black 6 17418-58-5, Kayaset red B 61968-60-3, C.I. Disperse  
     Violet 57 104270-04-4, Aizen sot yellow 5 158163-96-3, Oleosol  
     brilliant yellow 5G 171402-34-9, Oleosol Black AR  
     (water-insol. pigment- and water-sol. org. solvent-contg. aq.  
     inks with dispersion stability and water resistance)

L44 ANSWER 13 OF 20 HCA COPYRIGHT 2003 ACS  
 122:136374 Azo dye-containing **jet-printing**  
**inks** for hydrophobic fibers. Murakami, Yasuo; Izumi, Kaoru;  
 Kubo, Motosada (Nippon Kayaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP  
 06184480 A2 **19940705** Heisei, 5 pp. (Japanese). CODEN:  
 JKXXAF. APPLICATION: JP 1992-353921 19921216.

GI

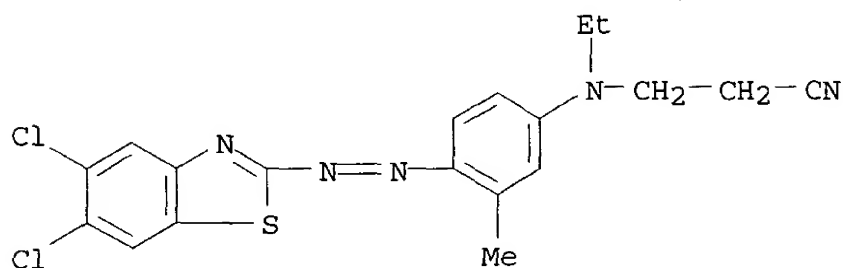


AB The title inks contain .gtoreq.1 dispersed azo dye I (X1, X3 = Cl, H; X2 = Cl; X1, X3 .noteq. Cl at the same time; R1 = H, Cl, C1-4 alkyl, C1-2 acylamino; R2-3 = alkyl, alkoxy-carbonylalkyl, alkoxy-carbonyloxyalkyl, alkyl-carbonyloxyalkyl, phenyl-carbonyloxyalkyl, cyanoalkyl, phenylalkyl, or phenoxyalkyl with all alkoxy and alkyl having 1-4 C). A mixt. of I (X1-2 = Cl; X3 = H; R1 = Me; R2 = CH<sub>2</sub>CH<sub>2</sub>CN; R3 = Et) 9, I (X1 = H; X2-3 = Cl; R1 = Me; R2 = CH<sub>2</sub>CH<sub>2</sub>CN; R3 = Et) 9, HCHO-Na naphthalenesulfonate condensate 6.5, ethylene oxide-propylene oxide block copolymer 4.3, and water 45 parts was wet milled and filtered to give a dispersion which (60 parts) was mixed with 10.6 parts **glycerol** and 75.4 parts water and filtered to give an ink contg. 10% solids.

IT **28080-90-2**  
(dye; in **jet-printing inks** for hydrophobic fibers)

RN 28080-90-2 HCA

CN Propanenitrile, 3-[[4-[(5,6-dichloro-2-benzothiazolyl)azo]-3-methylphenyl]ethylamino]- (9CI) (CA INDEX NAME)

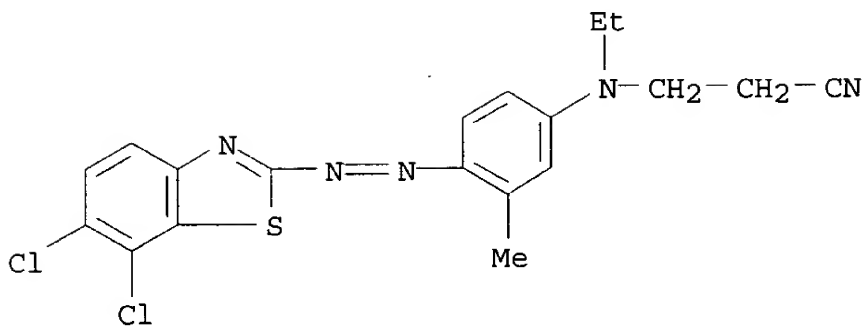


IT **78520-83-9 78564-87-1 89456-51-9**  
**111381-10-3 111381-11-4 111381-12-5**  
**143145-93-1 160987-56-4 160987-57-5**  
**160987-58-6 160987-59-7 160987-60-0**  
**161015-57-2 161025-10-1 161105-79-9**

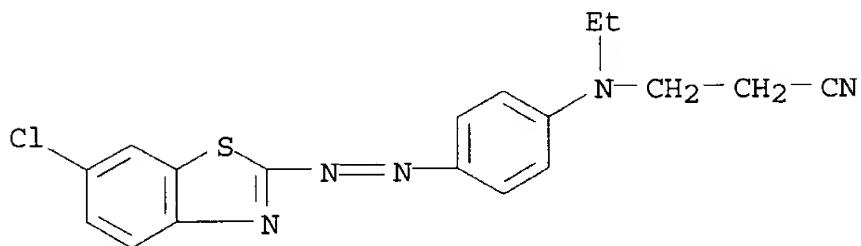
(in **jet-printing inks** for hydrophobic fibers)

RN 78520-83-9 HCA

CN Propanenitrile, 3-[[4-[(6,7-dichloro-2-benzothiazolyl)azo]-3-methylphenyl]ethylamino]- (9CI) (CA INDEX NAME)

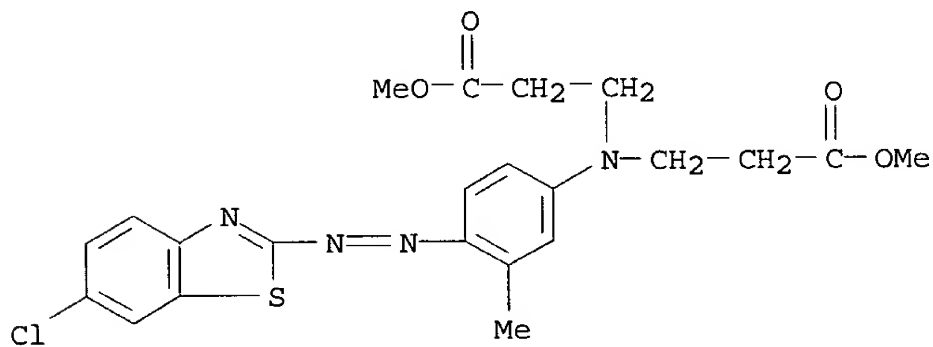


RN 78564-87-1 HCA  
 CN Propanenitrile, 3-[[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]ethylamino]- (9CI) (CA INDEX NAME)



D1-C1

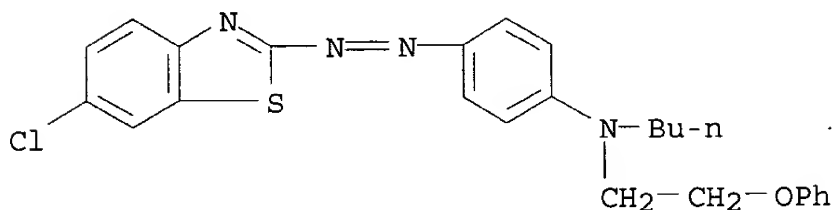
RN 89456-51-9 HCA  
 CN .beta.-Alanine, N-[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]-3-methylphenyl]-N-(3-methoxy-3-oxopropyl)-, methyl ester (9CI) (CA INDEX NAME)



D1-C1



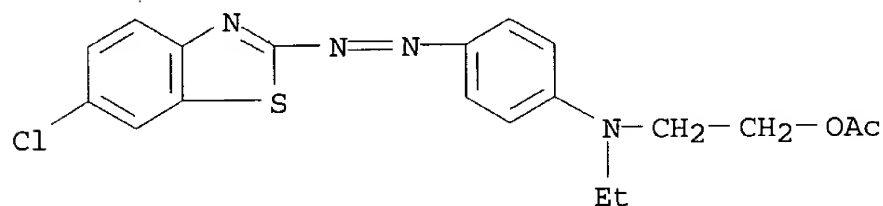
RN 111381-10-3 HCA

CN Benzenamine, N-butyl-4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]-  
N-(2-phenoxyethyl)- (9CI) (CA INDEX NAME)

D1-C1

RN 111381-11-4 HCA

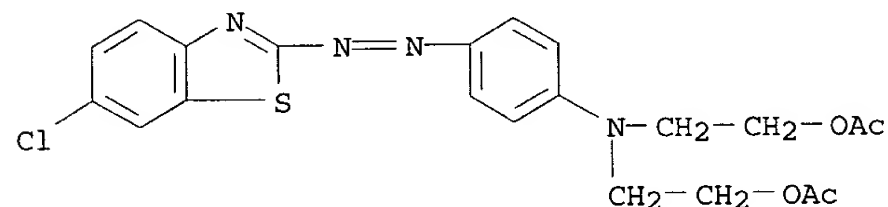
CN Ethanol, 2-[[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]ethylamino]-, acetate (ester) (9CI) (CA INDEX NAME)



D1-C1

RN 111381-12-5 HCA

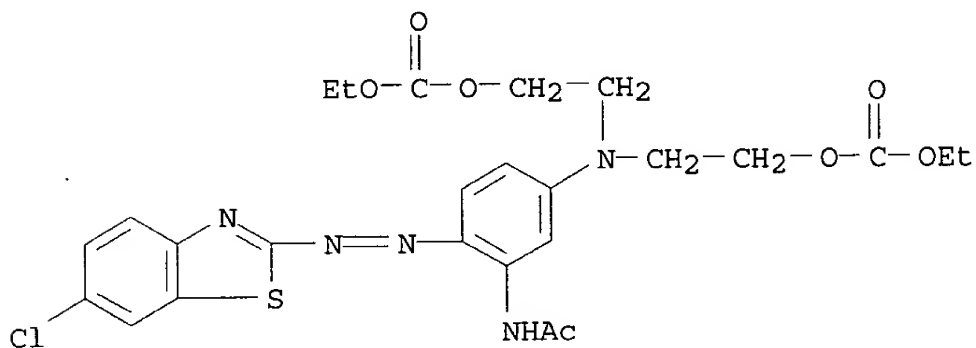
CN Ethanol, 2,2'-[[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]imino]bis-, diacetate (ester) (9CI) (CA INDEX NAME)



D1-C1

RN 143145-93-1 HCA

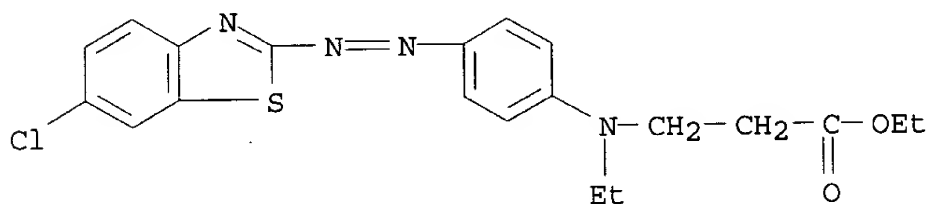
CN 2,8,10-Trioxa-5-azadodecanoic acid, 5-[3-(acetylamino)-4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]-, ethyl ester (9CI) (CA INDEX NAME)



D1-C1

RN 160987-56-4 HCA

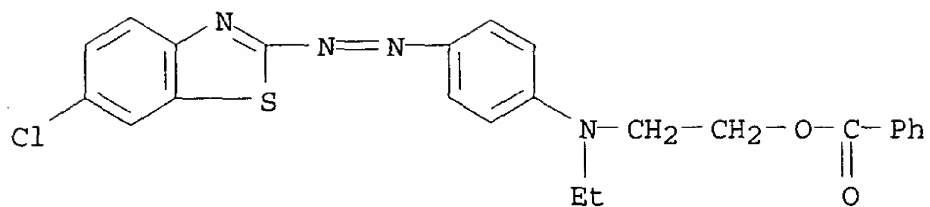
CN .beta.-Alanine, N-[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]-N-ethyl-, ethyl ester (9CI) (CA INDEX NAME)



D1-C1

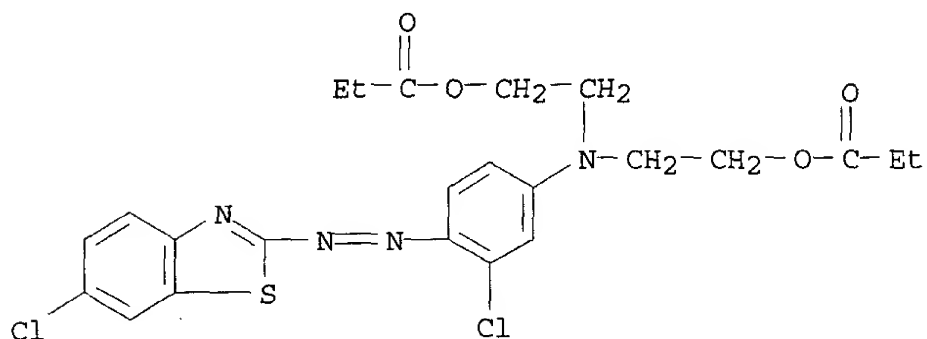
RN 160987-57-5 HCA

CN Ethanol, 2-[[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]ethylamino]-, benzoate (ester) (9CI) (CA INDEX NAME)



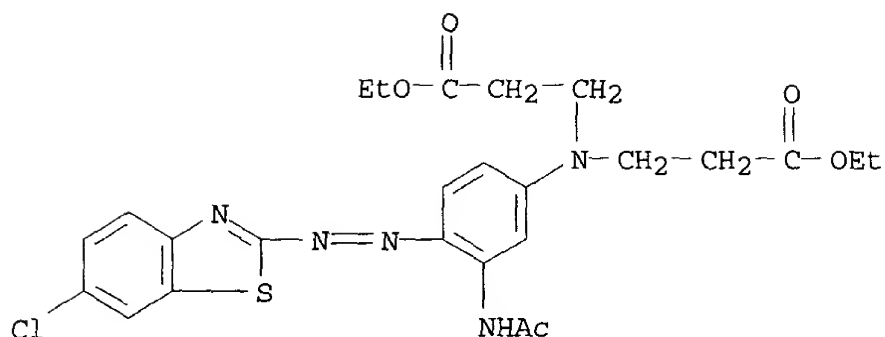
D1-Cl

RN 160987-58-6 HCA  
 CN Ethanol, 2,2'-[[3-chloro-4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]imino]bis-, dipropionate (ester) (9CI)  
 (CA INDEX NAME)



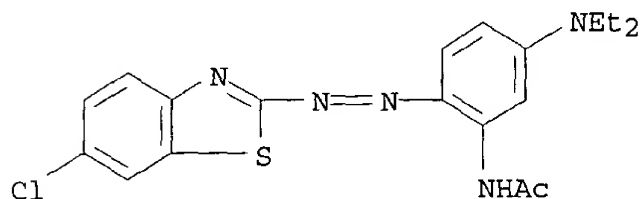
D1-Cl

RN 160987-59-7 HCA  
 CN .beta.-Alanine, N-[3-(acetylamino)-4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]-N-(3-ethoxy-3-oxopropyl)-, ethyl ester  
 (9CI) (CA INDEX NAME)



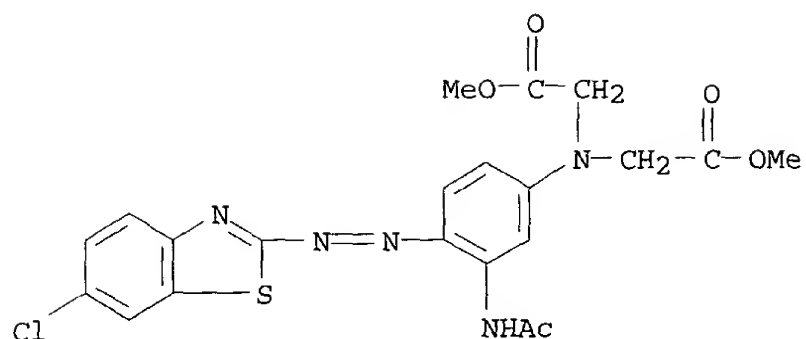
D1-Cl

RN 160987-60-0 HCA  
 CN Acetamide, N-[2-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]-5-(diethylamino)phenyl]- (9CI) (CA INDEX NAME)



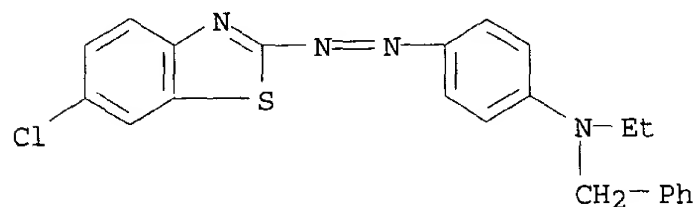
D1-Cl

RN 161015-57-2 HCA  
 CN Glycine, N-[3-(acetamino)-4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]-N-(2-methoxy-2-oxoethyl)-, methyl ester (9CI) (CA INDEX NAME)



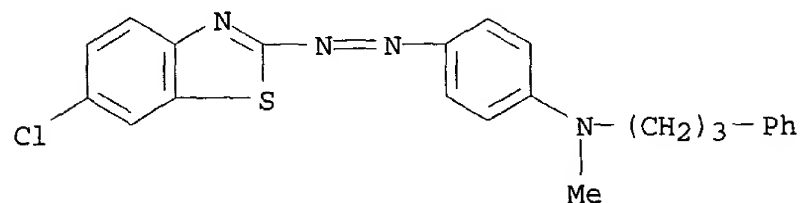
D1-C1

RN 161025-10-1 HCA  
 CN Benzenemethanamine, N-[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]-N-ethyl- (9CI) (CA INDEX NAME)



D1-C1

RN 161105-79-9 HCA  
 CN Benzenepropanamine, N-[4-[[5,6(or 6,7)-dichloro-2-benzothiazolyl]azo]phenyl]-N-methyl- (9CI) (CA INDEX NAME)



D1-C1

IC ICM C09D011-00  
 ICS C09B067-46; D06P005-00

CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 40

ST **j t printing ink** azo dye; fiber  
hydrophobic **jet printing ink**; dyeing  
hydrophobic fiber azo dye

IT Dyes, azo  
(in **jet-printing inks** for  
hydrophobic fibers)

IT **Inks**  
(**jet-printing**, azo dye-contg. inks for use on  
hydrophobic fibers)

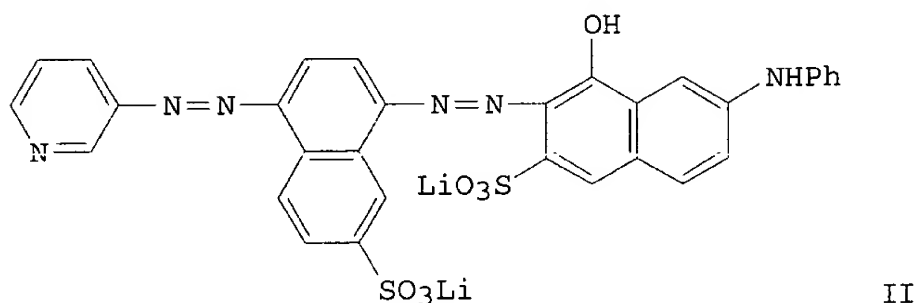
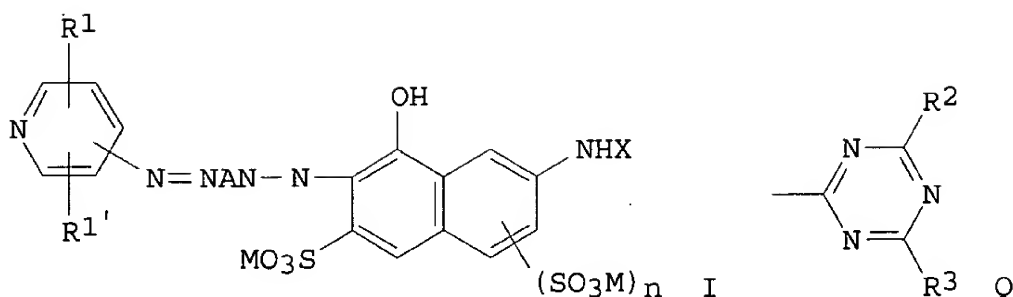
IT **28080-90-2**  
(dye; in **jet-printing inks** for  
hydrophobic fibers)

IT **78520-83-9 78564-87-1 89456-51-9**  
**111381-10-3 111381-11-4 111381-12-5**  
**143145-93-1 160987-56-4 160987-57-5**  
**160987-58-6 160987-59-7 160987-60-0**  
**161015-57-2 161025-10-1 161105-79-9**  
(in **jet-printing inks** for  
hydrophobic fibers)

L44 ANSWER 14 OF 20 HCA COPYRIGHT 2003 ACS

122:108906 Storage-stable aqueous black **inks** for **jet**  
**printing**. Sano, Hideo; Murata, Jukichi; Yoneyama, Tomio  
(Mitsubishi Chem Ind, Japan). Jpn. Kokai Tokkyo Koho JP 06192603 A2  
**19940712** Heisei, 10 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1992-344708 19921224.

GI



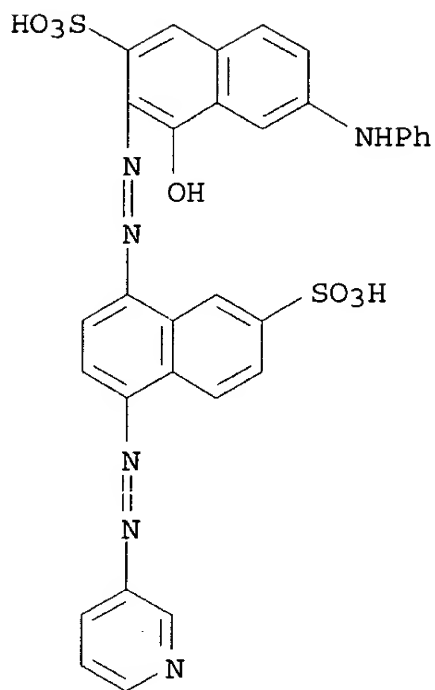
AB The title inks, giving light- and water-resistant images, contain disazo dyes I [A = (substituted) phenylene, (substituted) naphthylene; R1, R1' = H, alkyl, nitro, amino, halo, acylamino; X = H, alkyl, acyl, (MO3S- or MO2C-substituted) Ph, MO2C-substituted alkyl, hydroxyalkyl, Q; M = alkali metal, NH4, org. amine; n = 0-1; R2-3 = Cl, OH, amino, (substituted) lower alkylamino, arylamino, morpholino]. An aq. ink contg. II 2.5, diethylene glycol 20, N-methylpyrrolidone 5, triethanolamine 3, and Me2CHOH 3% showed good storage stability at 5.degree. and 60.degree..

IT 160312-79-8 160312-80-1 160312-81-2  
 160312-82-3 160312-83-4 160312-84-5  
 160312-85-6 160312-86-7 160312-87-8  
 160312-88-9 160312-90-3 160312-91-4  
 160312-92-5 160312-93-6 160312-94-7  
 160312-95-8

(dyes; in aq. jet-printing inks  
 with storage stability)

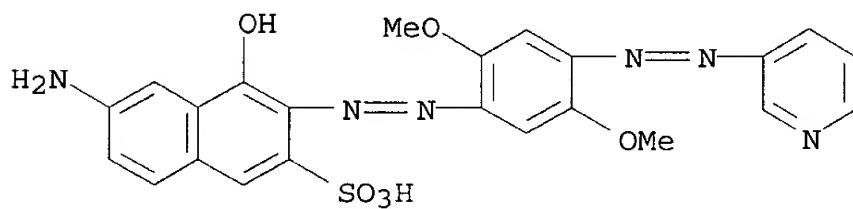
RN 160312-79-8 HCA

CN 2-Naphthalenesulfonic acid, 4-hydroxy-6-(phenylamino)-3-[[4-(3-pyridinylazo)-7-sulfo-1-naphthalenyl]azo]-, dilithium salt (9CI)  
 (CA INDEX NAME)



● 2 Li

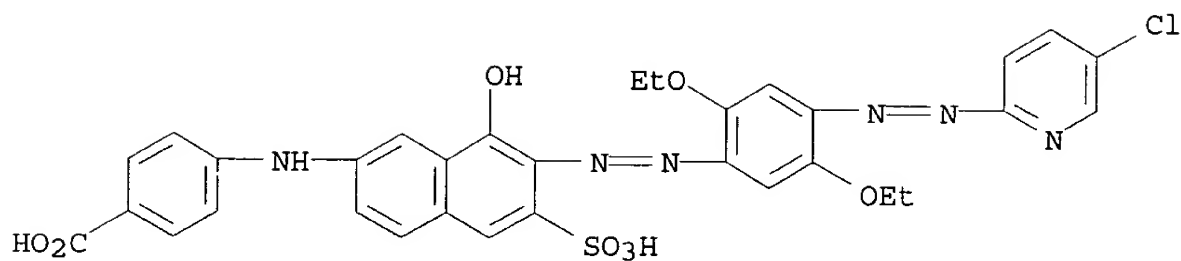
RN 160312-80-1 HCA  
 CN 2-Naphthalenesulfonic acid, 6-amino-3-[[2,5-dimethoxy-4-(3-pyridinylazo)phenyl]azo]-4-hydroxy-, monolithium salt (9CI) (CA INDEX NAME)



● Li

RN 160312-81-2 HCA  
 CN Benzoic acid, 4-[[7-[[4-[(5-chloro-2-pyridinyl)azo]-2,5-diethoxyphenyl]azo]-8-hydroxy-6-sulfo-2-naphthalenyl]amino]-, diammonium salt (9CI) (CA INDEX NAME)

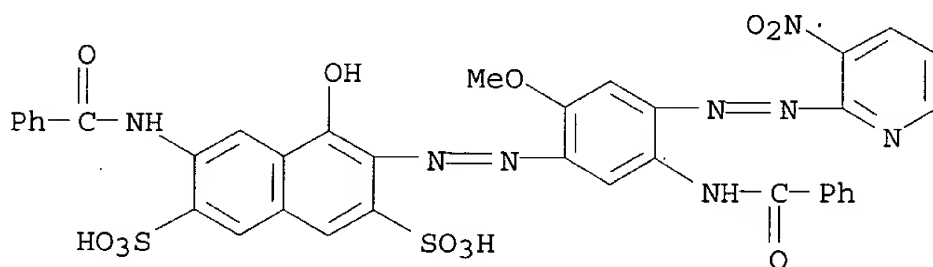




● 2 NH<sub>3</sub>

RN 160312-82-3 HCA

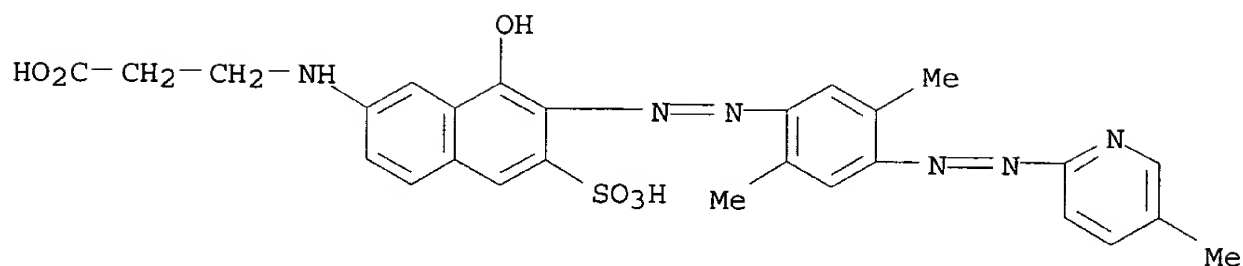
CN 2,7-Naphthalenedisulfonic acid, 6-(benzoylamino)-3-[[5-(benzoylamino)-2-methoxy-4-[(3-nitro-2-pyridinyl)azo]phenyl]azo]-4-hydroxy-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

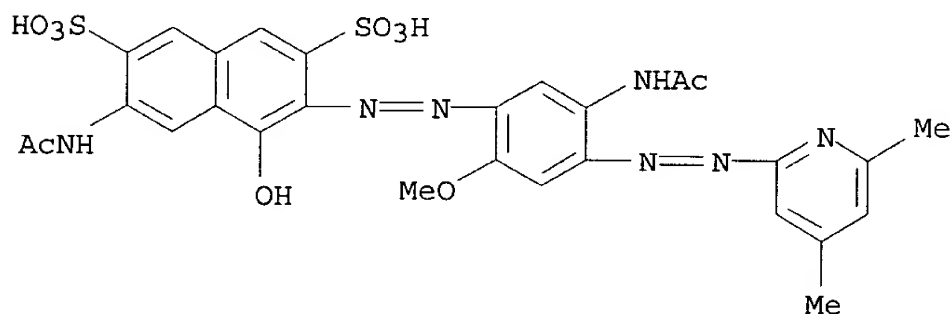
RN 160312-83-4 HCA

CN .beta.-Alanine, N-[7-[[2,5-dimethyl-4-[(5-methyl-2-pyridinyl)azo]phenyl]azo]-8-hydroxy-6-sulfo-2-naphthalenyl]-, diammonium salt (9CI) (CA INDEX NAME)



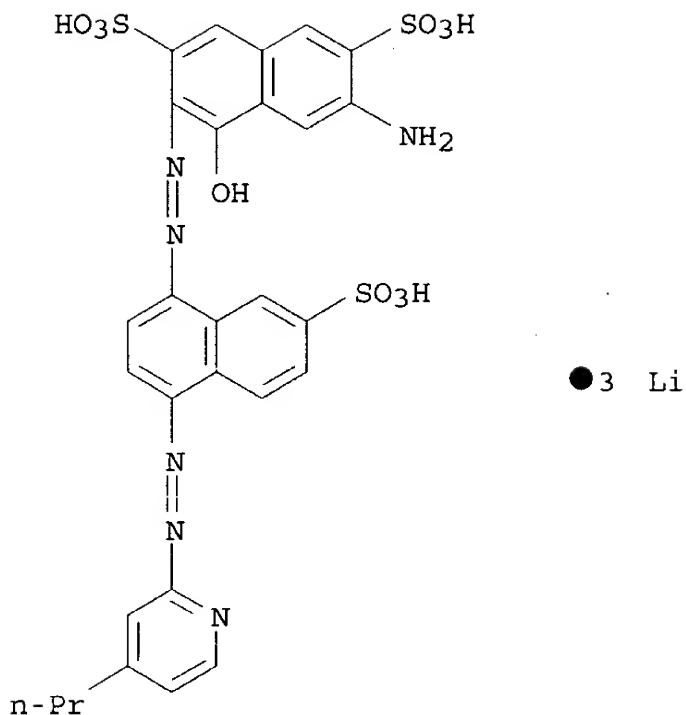
● 2 NH<sub>3</sub>

RN 160312-84-5 HCA  
 CN 2,7-Naphthalenedisulfonic acid, 6-(acetylamino)-3-[[5-(acetylamino)-4-[(4,6-dimethyl-2-pyridinyl)azo]-2-methoxyphenyl]azo]-4-hydroxy-, dilithium salt (9CI) (CA INDEX NAME)



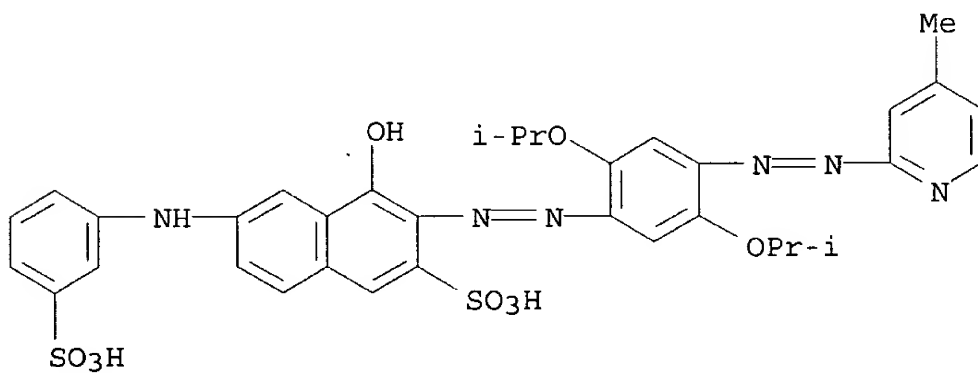
● 2 Li

RN 160312-85-6 HCA  
 CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[4-[(4-propyl-2-pyridinyl)azo]-7-sulfo-1-naphthalenyl]azo]-, trilithium salt (9CI) (CA INDEX NAME)



RN 160312-86-7 HCA

CN 2-Naphthalenesulfonic acid, 3-[[2,5-bis(1-methylethoxy)-4-[(4-methyl-2-pyridinyl)azo]phenyl]azo]-4-hydroxy-6-[(3-sulfophenyl)amino]-, dilithium salt (9CI) (CA INDEX NAME)

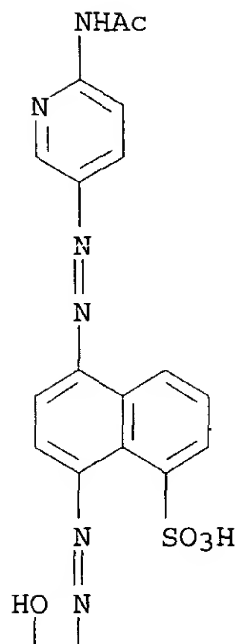


RN 160312-87-8 HCA

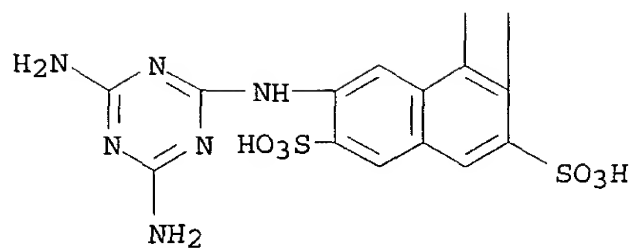
CN 2,7-Naphthalenedisulfonic acid, 3-[[4-[[6-(acetylamino)-3-pyridinyl]azo]-8-sulfo-1-naphthalenyl]azo]-6-[(4,6-diamino-1,3,5-triazin-2-yl)amino]-4-hydroxy-, tripotassium salt (9CI) (CA INDEX NAME)

NAME)

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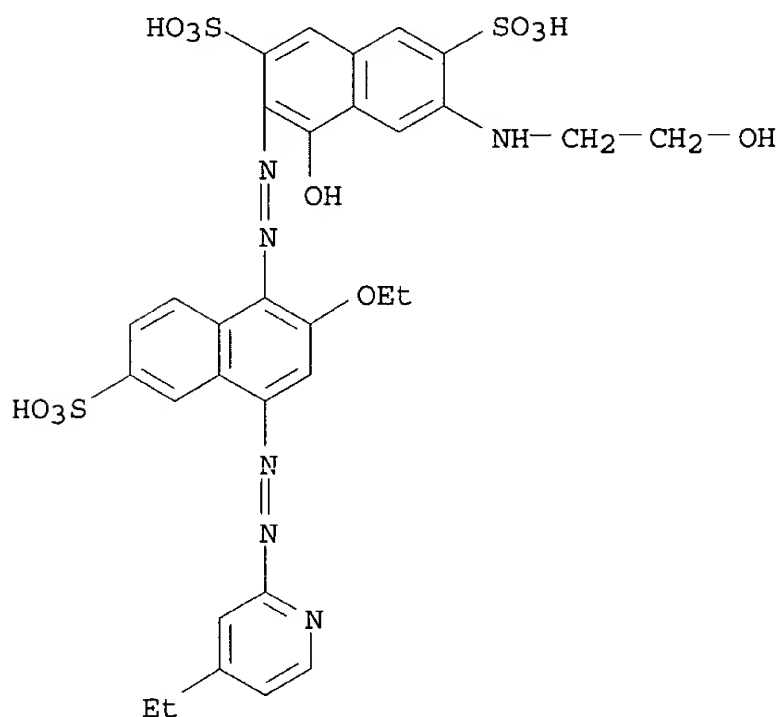
PAGE 2-A



● 3 K

RN 160312-88-9 HCA  
 CN 2,7-Naphthalenedisulfonic acid, 3-[[2-ethoxy-4-[(4-ethyl-2-pyridinyl)azo]-6-sulfo-1-naphthalenyl]azo]-4-hydroxy-6-[(2-

hydroxyethyl)amino]-, trilithium salt (9CI) (CA INDEX NAME)



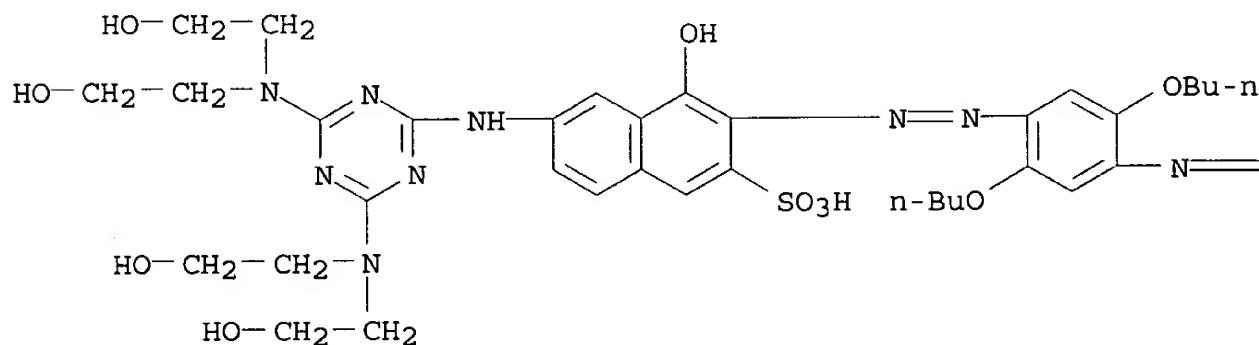
RN 160312-90-3 HCA  
 CN 2-Naphthalenesulfonic acid, 3-[[4-[(6-amino-3-pyridinyl)azo]-2,5-dibutoxyphenyl]azo]-6-[[4,6-bis[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-4-hydroxy-, compd. with 3,6,9,12,15-pentaazaheptadecane-1,17-diamine (1:1) (9CI) (CA INDEX NAME)

CM 1

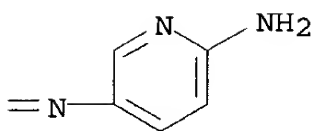
CRN 160312-89-0

CMF C40 H52 N12 O10 S

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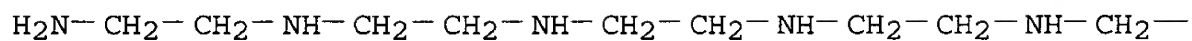


CM 2

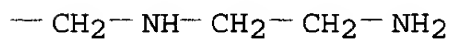
CRN 4403-32-1

CMF C12 H33 N7

PAGE 1-A

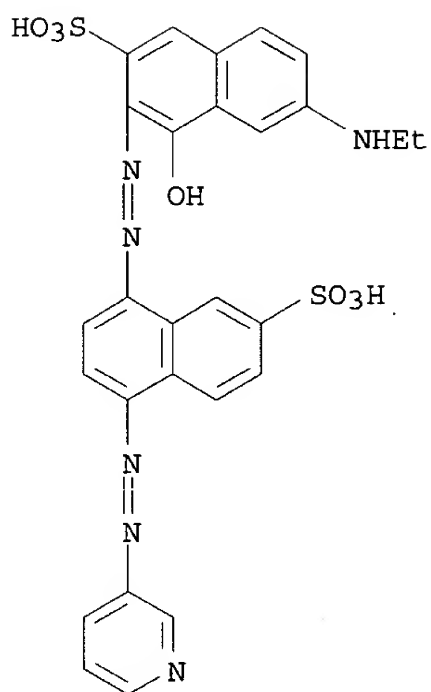


PAGE 1-B



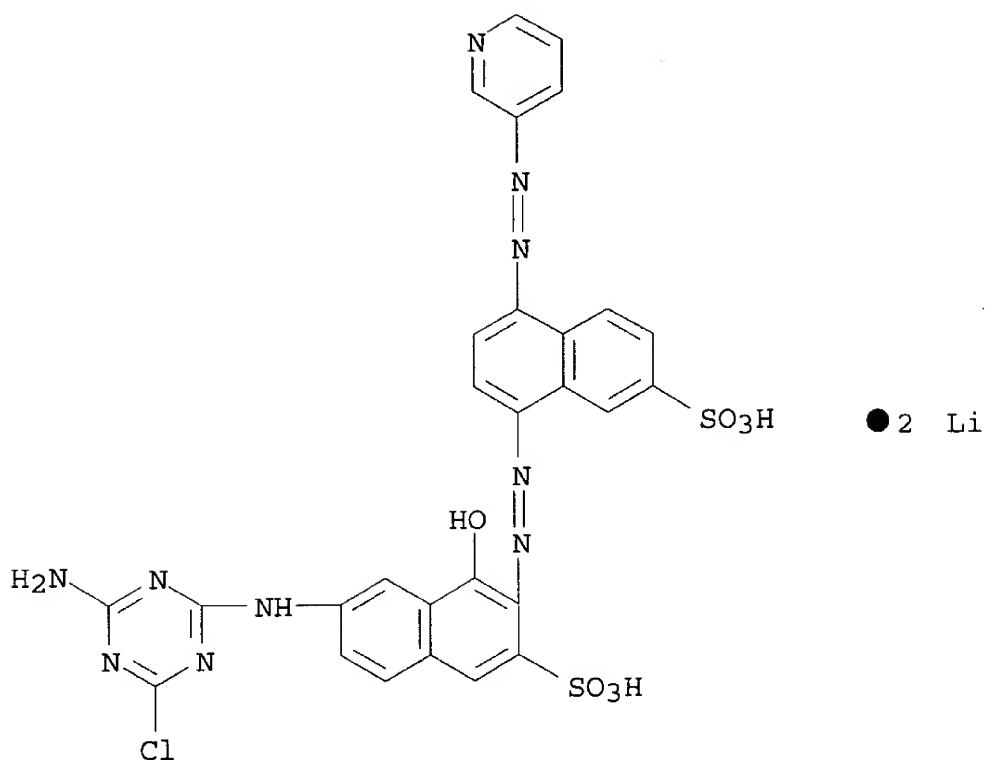
RN 160312-91-4 HCA

CN 2-Naphthalenesulfonic acid, 6-(ethylamino)-4-hydroxy-3-[[4-(3-pyridinylazo)-7-sulfo-1-naphthalenyl]azo]-, dilithium salt (9CI)  
(CA INDEX NAME)



● 2 Li

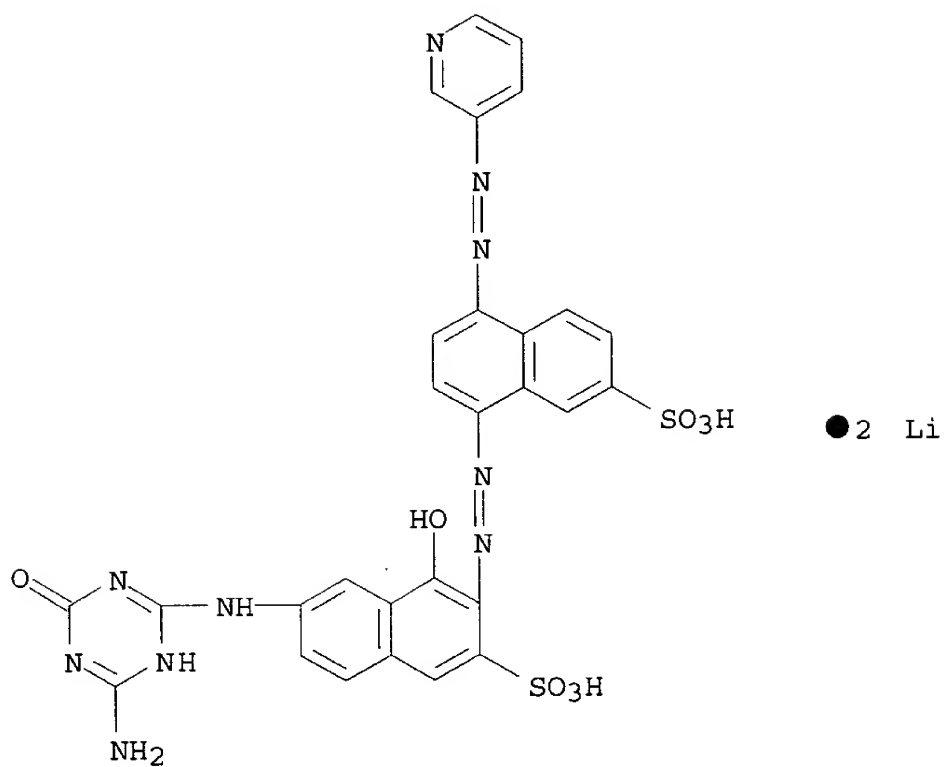
RN 160312-92-5 HCA  
 CN 2-Naphthalenesulfonic acid, 6-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-4-hydroxy-3-[[4-(3-pyridinylazo)-7-sulfo-1-naphthalenyl]azo]-, dilithium salt (9CI) (CA INDEX NAME)



RN 160312-93-6 HCA

CN 2-Naphthalenesulfonic acid, 6-[(6-amino-1,4-dihydro-4-oxo-1,3,5-triazin-2-yl)amino]-4-hydroxy-3-[[4-(3-pyridinylazo)-7-sulfo-1-naphthalenyl]azo]-, dilithium salt (9CI) (CA INDEX NAME)

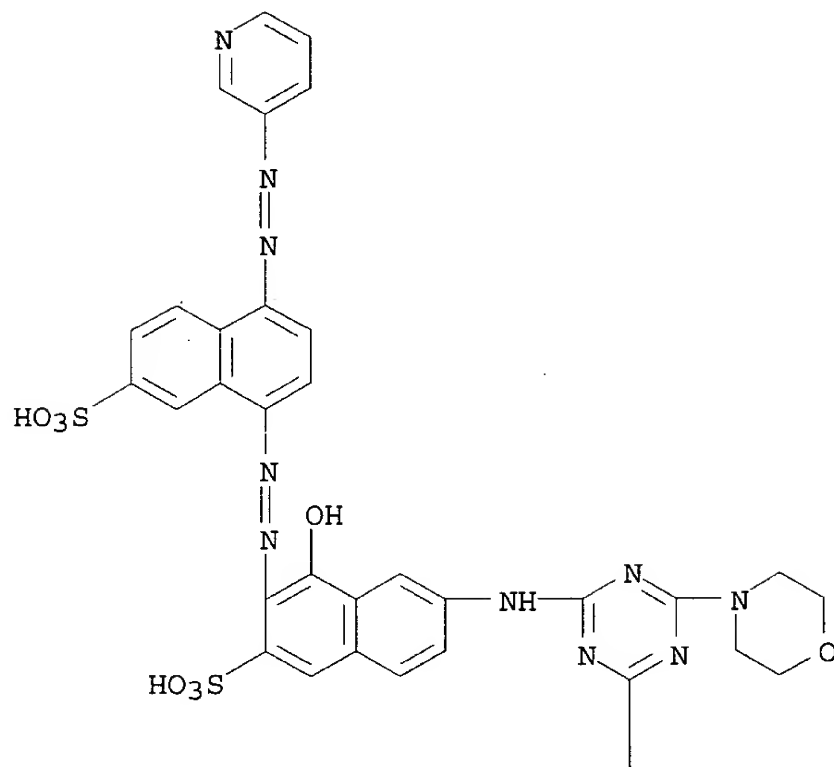




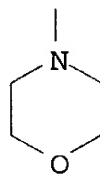
RN 160312-94-7 HCA

CN 2-Naphthalenesulfonic acid, 6-[(4,6-di-4-morpholinyl-1,3,5-triazin-2-yl)amino]-4-hydroxy-3-[[4-(3-pyridinylazo)-7-sulfo-1-naphthalenyl]azo]-, dilithium salt (9CI) (CA INDEX NAME)

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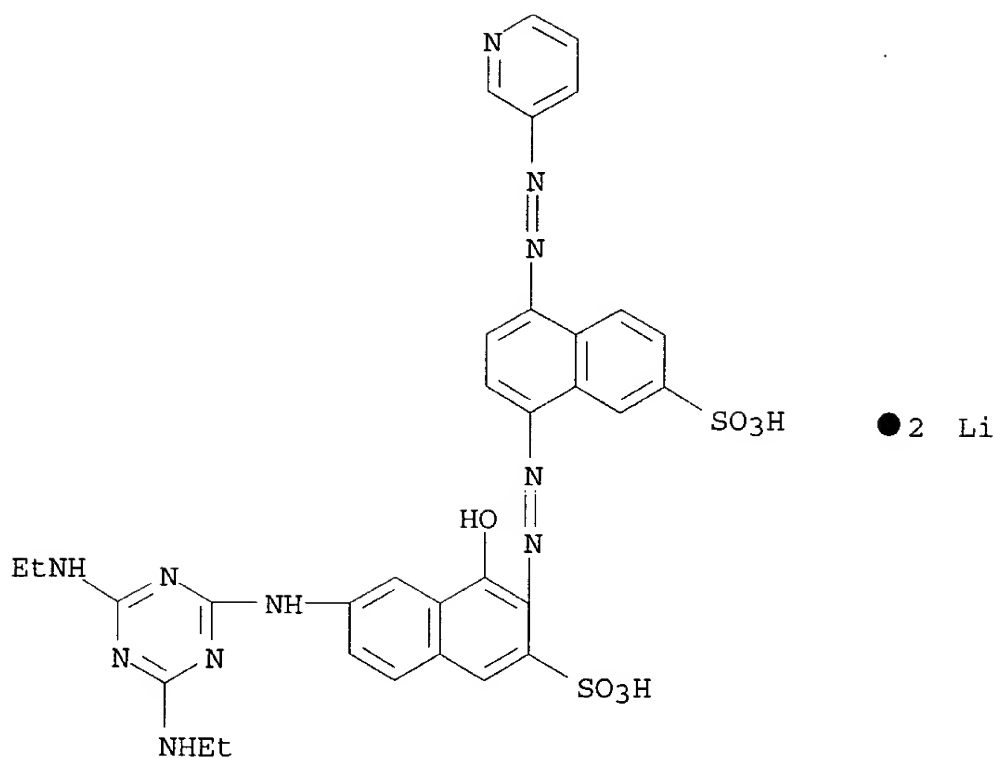


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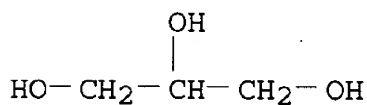


● 2 Li

RN 160312-95-8 HCA  
 CN 2-Naphthalenesulfonic acid, 6-[[4,6-bis(ethylamino)-1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[[4-(3-pyridinylazo)-7-sulfo-1-naphthalenyl]azo]-, dilithium salt (9CI) (CA INDEX NAME)



IT 56-81-5, **Glycerin**, uses  
 (solvents; in stable aq. **jet-printing**  
**inks**)  
 RN 56-81-5 HCA  
 CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



IC ICM C09D011-00  
 ICS C09D011-02  
 CC 42-12 (Coatings, Inks, and Related Products)  
 ST disazo dye black ink stability; **jet printing**  
**ink** disazo dye; light resistance ink disazo dye; water  
 resistance ink disazo dye  
 IT Dyes, azo  
 (disazo; in stable aq. **jet-printing**  
**inks**)  
 IT **Inks**  
 (**jet-printing**, water-thinned, stable black  
 inks contg. disazo dyes)  
 IT 160312-79-8 160312-80-1 160312-81-2  
 160312-82-3 160312-83-4 160312-84-5

160312-85-6 160312-86-7 160312-87-8  
160312-88-9 160312-90-3 160312-91-4  
160312-92-5 160312-93-6 160312-94-7  
160312-95-8

(dyes; in aq. **jet-printing inks**  
with storage stability)

IT 56-81-5, **Glycerin**, uses 67-63-0, 2-Propanol,  
uses 102-71-6, Triethanolamine, uses 107-21-1, Ethylene glycol,  
uses 111-46-6, Diethylene glycol, uses 112-34-5, Diethylene  
glycol monobutyl ether 872-50-4, N-Methylpyrrolidone, uses  
(solvents; in stable aq. **jet-printing**  
**inks**)

L44 ANSWER 15 OF 20 HCA COPYRIGHT 2003 ACS

121:282312 Azo dyes, manufacture thereof, and **jet-**  
**printing inks** containing the same. Ariga, Tamotsu  
(Ricoh Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06145545 A2  
19940524 Heisei, 10 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1992-302404 19921112.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

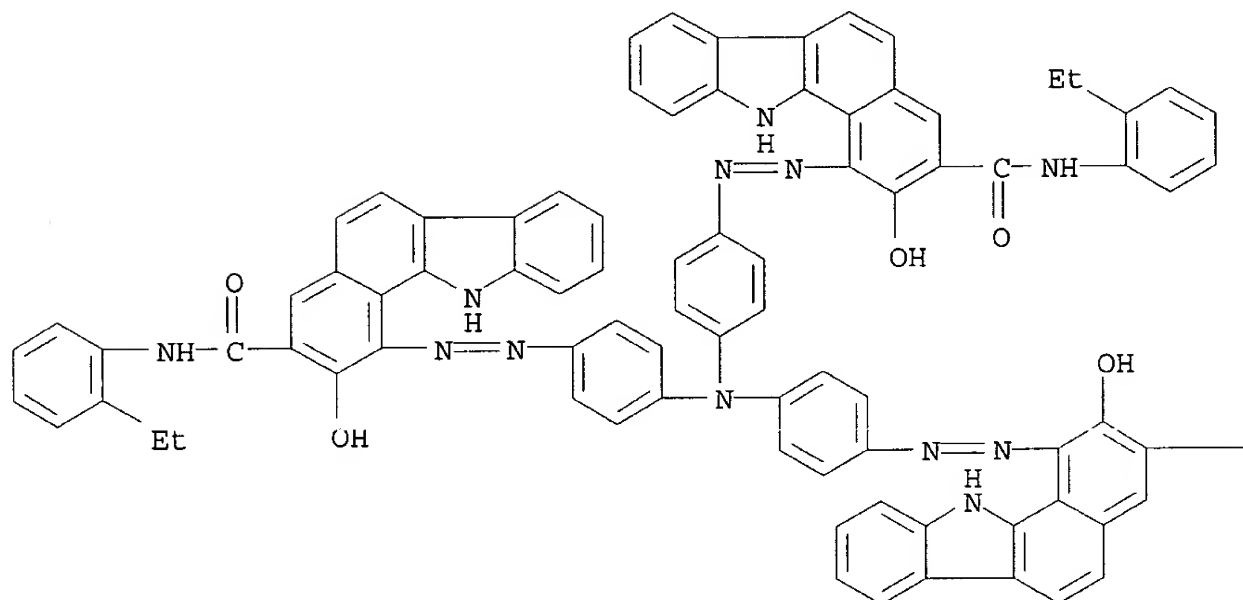
AB The title dyes providing high-quality images in **ink-**  
**jet printing** are I, II, and III (R1, R2 = alkyl,  
alkoxy, halogen, H; n = 1-4; M = alkali metal, amine residue,  
ammonium; X = halogen, Me, MeO, H). I (n = 0; R1, R2 = 2-Cl) was  
sulfonated to 2.5 sulfo group content. A **jet-**  
**printing ink** with good storability comprised the  
above sulfonated dye 3, diethylene glycol 22.5, **glycerin**  
7.5, Deltop 0.2, and water 66.8%.

IT 84809-01-8DP, sulfonated 84814-51-7DP, sulfonated  
(dye, manuf. of, for **jet-printing**  
**inks**)

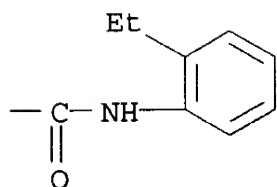
RN 84809-01-8 HCA

CN 11H-Benzo[a]carbazole-3-carboxamide, 1,1',1''-[nitrilotris(4,1-  
phenyleneazo)]tris[N-(2-ethylphenyl)-2-hydroxy- (9CI) (CA INDEX  
NAME)

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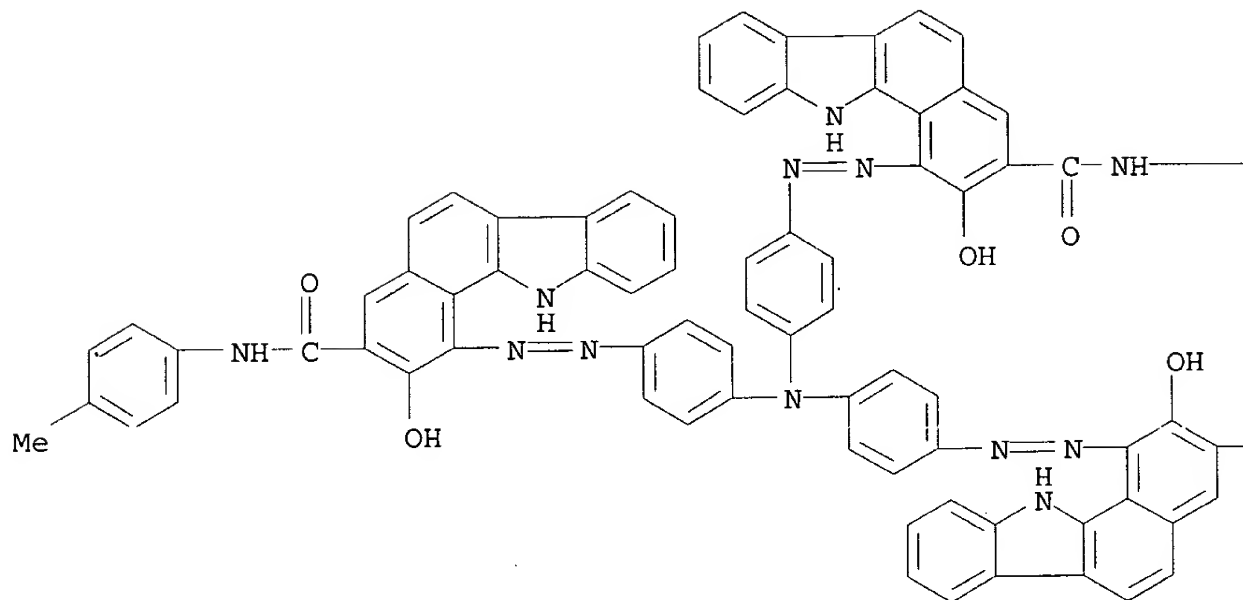


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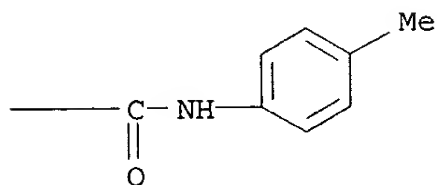
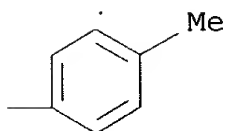


RN 84814-51-7 HCA  
CN 11H-Benzo[a]carbazole-3-carboxamide, 1,1',1''-[nitrilotris(4,1-phenyleneazo)] tris[2-hydroxy-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)

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IC ICM C09B035-039  
ICS C09B035-233; C09D011-00; C09D011-02  
CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and  
Photographic Sensitizers)  
Section cross-reference(s): 42

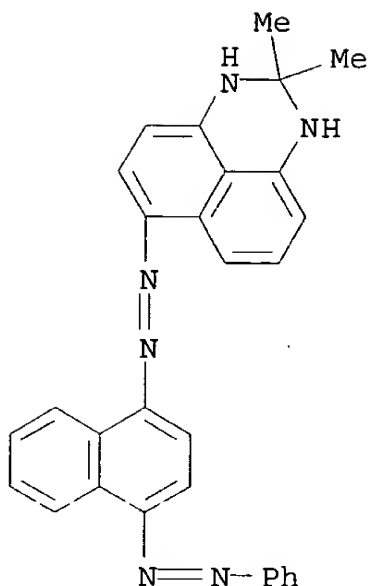
ST azo dye jet printing ink  
IT Dyes, azo  
(sulfonated, for jet-printing inks)  
IT Inks  
(jet-printing, sulfonated azo dyes for)  
IT 82829-36-5DP, sulfonated 84809-01-8DP, sulfonated  
84814-51-7DP, sulfonated 107321-61-9DP, sulfonated  
151798-26-4DP, sulfonated  
(dye, manuf. of, for jet-printing  
inks)

L44 ANSWER 16 OF 20 HCA COPYRIGHT 2003 ACS  
121:258084 Preventing clogging of nozzles in drop-on-demand ink  
-jet printers during nonprinting intervals.  
Vonasek, Jiri; Tunius, Mats Anders Robert; Rydinge, Klas (Markpoint  
Development AB, Swed.). PCT Int. Appl. WO 9403546 A1  
19940217, 16 pp. DESIGNATED STATES: W: JP, US; RW: AT, BE,  
CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English).  
CODEN: PIXXD2. APPLICATION: WO 1993-EP2005 19930727. PRIORITY: SE  
1992-2243 19920728.

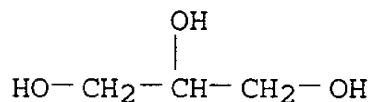
AB The clogging of the title printers is prevented by using an ink  
contg. (a) .gtoreq.1 solvent, (b) a non- or low-volatile liq.  
miscible to a certain extent in .gtoreq.1 solvent, and (c) a  
colorant that is sol. and(or) dispersible in the (a)-(b) mixt. but  
insol. in (b) alone. The relative quantities and soly. of the  
constituents are selected such that when printing terminates and a  
portion of the solvent evaps. at the nozzle orifice, a concn. of (c)  
and (b) builds up in the region of the nozzle orifice. This causes  
the (c) to migrate to an environment in which its affinity is  
greater, i.e. further within the nozzle. Typical inks contained  
water 0-15, ethylene glycol 5-20, EtOH 10-40, MEK 0-50, and Pro Jet  
Black MEK 10-60%.

IT 4197-25-5  
(preventing clogging of nozzles in drop-on-demand ink-  
jet printers during nonprinting intervals)

RN 4197-25-5 HCA  
CN 1H-Perimidine, 2,3-dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-  
naphthalenyl]azo]- (9CI) (CA INDEX NAME)



IT 56-81-5, 1,2,3-Propanetriol, uses  
 (solvent; preventing clogging of nozzles in drop-on-demand  
**ink-jet printers** during nonprinting  
 intervals)  
 RN 56-81-5 HCA  
 CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



IC ICM C09D011-00  
 CC 42-12 (Coatings, Inks, and Related Products)  
 ST **jet printing ink** nonclogging; MEK  
 solvent **jet printing ink**; ethanol  
 solvent **jet printing ink**; ethylene  
 glycol solvent **jet printing ink**  
 IT Dyes  
 Pigments  
 Solvents  
 (preventing clogging of nozzles in drop-on-demand **ink-**  
**jet printers** during nonprinting intervals)  
 IT Carbon black, uses  
 (preventing clogging of nozzles in drop-on-demand **ink-**  
**jet printers** during nonprinting intervals)  
 IT Alcohols, uses  
 Amides, uses  
 Esters, uses  
 Ketones, uses  
 (solvents; preventing clogging of nozzles in drop-on-demand



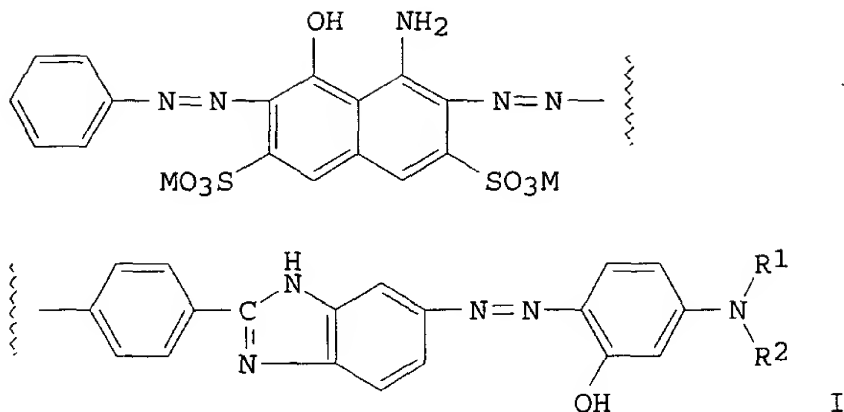
- ink-jet printers** during nonprinting intervals)
- IT Alcohols, uses  
(amino, solvents; preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT Ethers, uses  
(glycol, solvents; preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT **Inks**  
(**jet-printing**, preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT Alcohols, uses  
(polyhydric, solvents; preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT 54060-92-3, C.I. Basic Yellow 28  
(Astrazon Golden Yellow GL FW; preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT 12237-22-8, C.I. Solvent Black 27  
(Duasyn Black A-RGVP 280; preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT 12222-04-7, C.I. Direct Blue 199  
(Levancel Fast Turquoise Blue BLN; preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT 7786-30-3, Magnesium chloride, uses 10043-52-4, Calcium chloride, uses  
(preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT 4197-25-5 12239-74-6, Savinyl Fire Red 3GLS 116410-83-4, C.I. Solvent Black 47  
(preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)
- IT 56-81-5, 1,2,3-Propanetriol, uses 64-17-5, Ethanol, uses 67-64-1, Acetone, uses 71-23-8, 1-Propanol, uses 75-12-7, Formamide, uses 78-93-3, MEK, uses 102-71-6, uses 107-21-1, 1,2-Ethanediol, uses 108-10-1, MIBK 141-78-6, Acetic acid ethyl ester, uses 7732-18-5, Water, uses  
(solvent; preventing clogging of nozzles in drop-on-demand **ink-jet printers** during nonprinting intervals)

L44 ANSWER 17 OF 20 HCA COPYRIGHT 2003 ACS

121:85976 Dyes for **jet printing inks**.

Yoshida, Yoshiharu; Hayashi, Hiroko (Seiko Epson Corp, Japan). Jpn. Kokai Tokkyo Koho JP 06001937 A2 19940111 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-162886 19920622.

GI



AB The title inks, showing storage stability and giving intense colors, contain water-sol. dyes I (R1 = C1-10 group contg. OH, NH2, Ph, oxo, and/or ether groups; R2 = C1-10 group contg. OH, NH2, Ph, and/or ether groups; M = H, Li, Na, K, ammonium, amine group). An ink contained I (R1 = H; R2 = 2-hydroxybutyl; M = Na) 3, glycerol 8, EtOH 6, and H2O 83%.

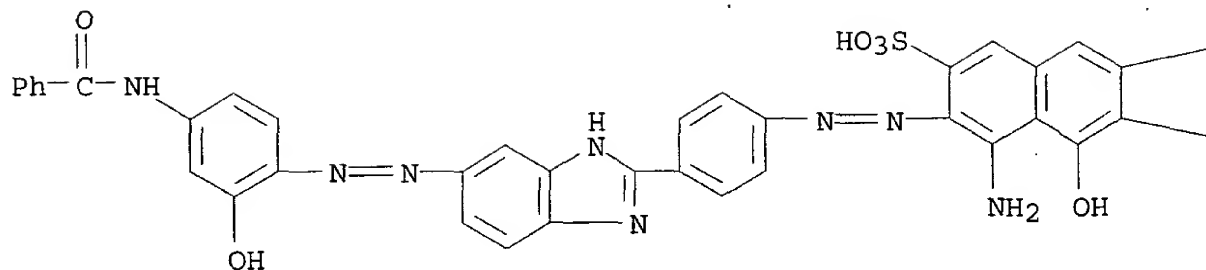
IT 156487-36-4 156487-37-5 156487-38-6  
 156487-39-7 156487-40-0 156487-41-1  
 156487-42-2 156487-44-4 156487-45-5  
 156487-46-6 156487-47-7 156487-48-8  
 156487-49-9

(dyes, jet printing inks contg.,  
 storage-stable)

RN 156487-36-4 .HCA

CN 2,7-Naphthalenedisulfonic acid, 4-amino-3-[[4-[5-[[4-(benzoylamino)-2-hydroxyphenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-5-hydroxy-6-(phenylazo)-, dilithium salt (9CI) (CA INDEX NAME)

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● 2 Li

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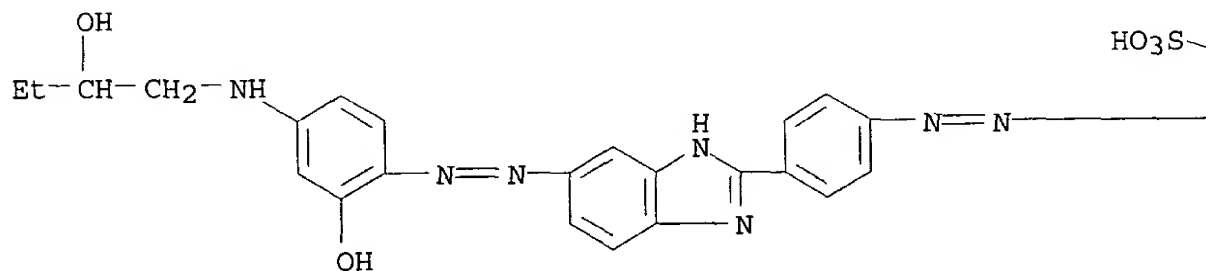
—SO<sub>3</sub>H

—N=N—Ph

RN 156487-37-5 HCA

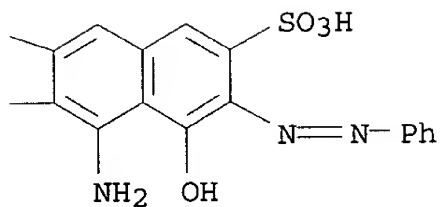
CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4-[5-[[2-hydroxy-4-[(2-hydroxybutyl)amino]phenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-6-(phenylazo)-, disodium salt (9CI) (CA INDEX NAME)

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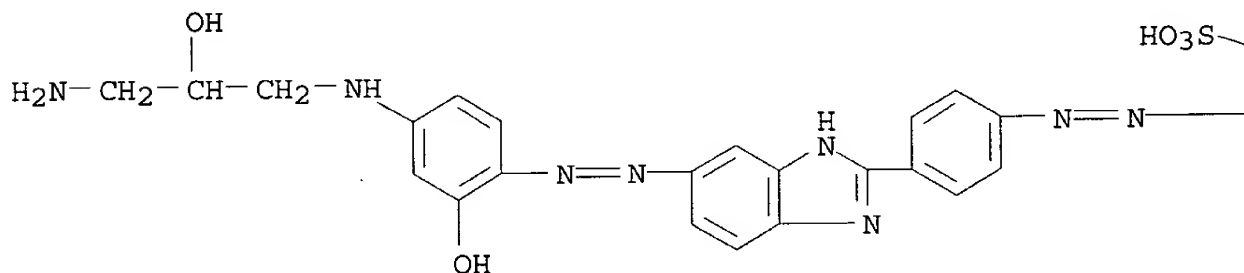
2 Na

PAGE 1-B

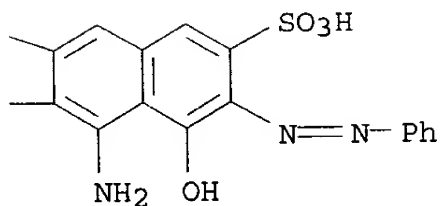


RN 156487-38-6 HCA  
 CN 2,7-Naphthalenedisulfonic acid, 4-amino-3-[[4-[[5-[[4-[(3-amino-2-hydroxypropyl)amino]-2-hydroxyphenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-5-hydroxy-6-(phenylazo)-, diammonium salt (9CI) (CA INDEX NAME)

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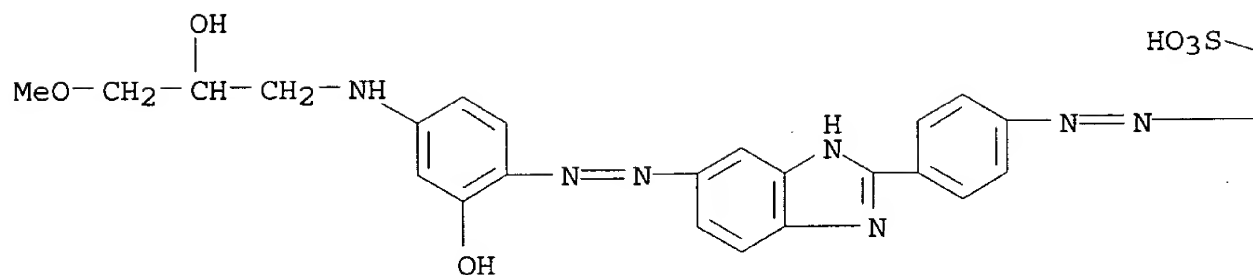
● 2 NH<sub>3</sub>

PAGE 1-B

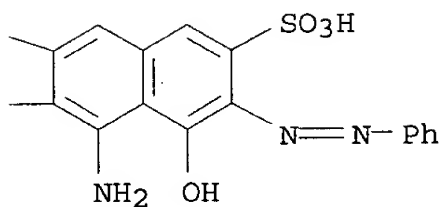


RN 156487-39-7 HCA  
 CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4-[[5-[[2-hydroxy-4-[(2-hydroxy-3-methoxypropyl)amino]phenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-6-(phenylazo)-, diammonium salt (9CI) (CA INDEX NAME)

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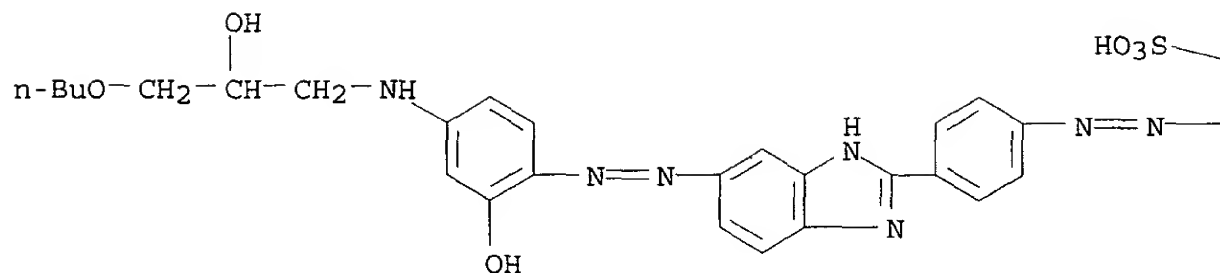
● 2 NH<sub>3</sub>

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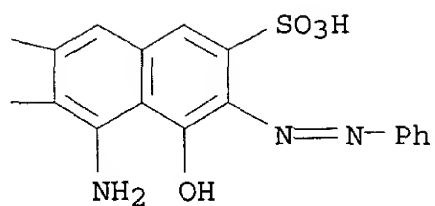
RN 156487-40-0 HCA  
 CN 2,7-Naphthalenedisulfonic acid, 4-amino-3-[[4-[5-[[4-[(3-butoxy-2-hydroxypropyl)amino]-2-hydroxyphenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-5-hydroxy-6-(phenylazo)-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

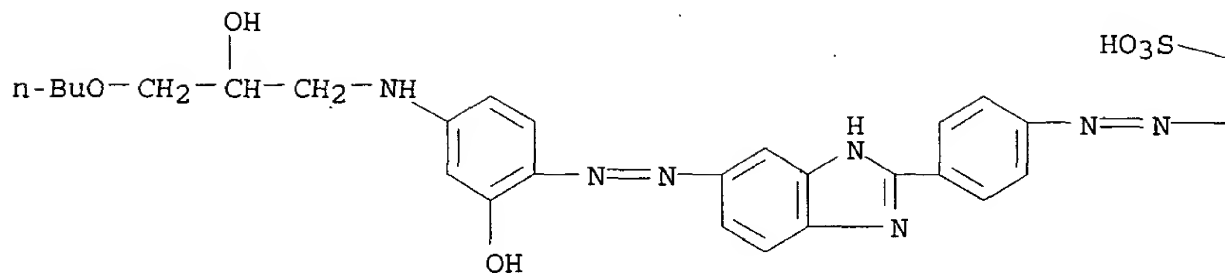
PAGE 1-B



RN 156487-41-1 HCA

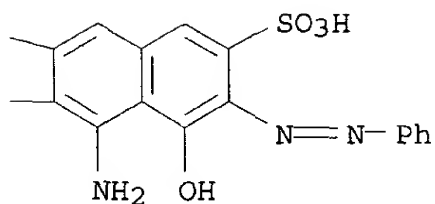
CN 2,7-Naphthalenedisulfonic acid, 4-amino-3-[[4-[5-[[4-[(3-butoxy-2-hydroxypropyl)amino]-2-hydroxyphenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-5-hydroxy-6-(phenylazo)-, dilithium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Li

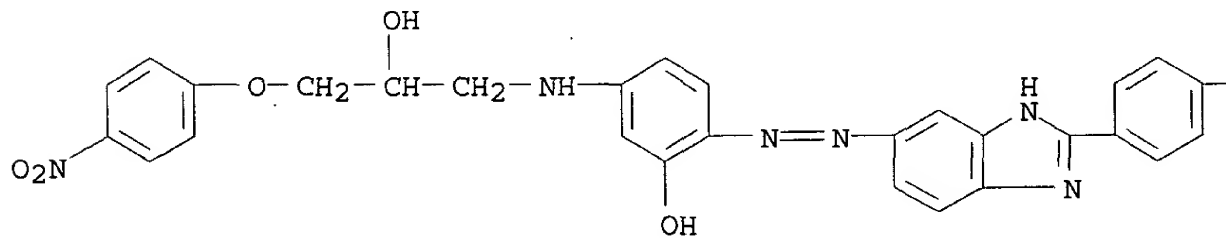
PAGE 1-B



RN 156487-42-2 HCA

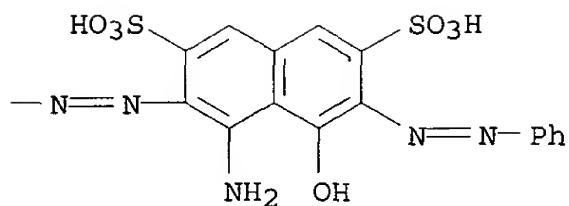
CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4-[5-[[2-hydroxy-4-[[2-hydroxy-3-(4-nitrophenoxy)propyl]amino]phenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-6-(phenylazo)-, disodium salt (9CI)  
(CA INDEX NAME)

PAGE 1-A



2 Na

PAGE 1-B



RN 156487-44-4 HCA

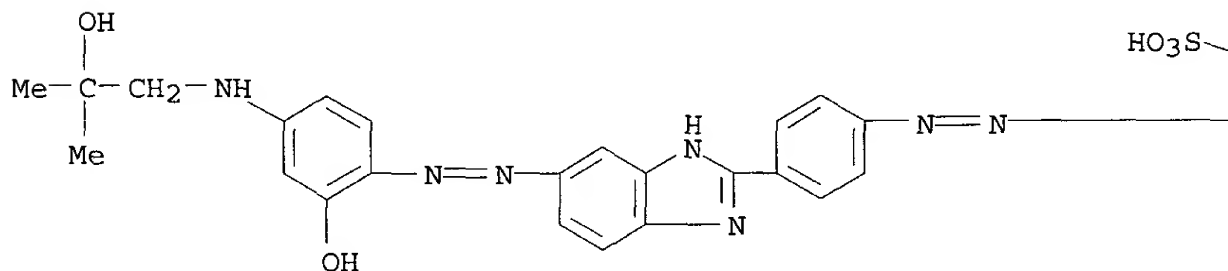
CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4-[[5-[[2-hydroxy-4-[(2-hydroxy-2-methylpropyl)amino]phenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-6-(phenylazo)-, compd. with 2,2',2''-nitrilotris[ethanol] (1:1) (9CI) (CA INDEX NAME)

CM 1

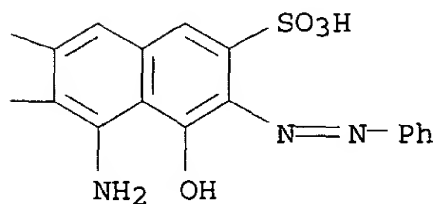
CRN 156487-43-3

CMF C39 H34 N10 O9 S2

PAGE 1-A



PAGE 1-B

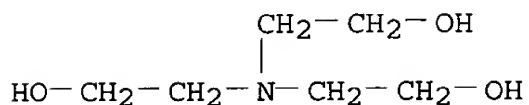


CM 2

CRN 102-71-6



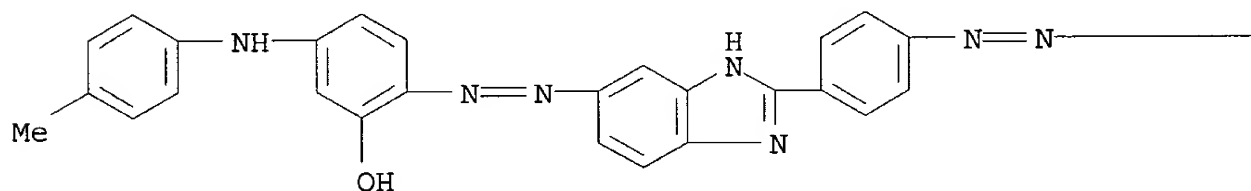
CMF C6 H15 N O3



RN 156487-45-5 HCA

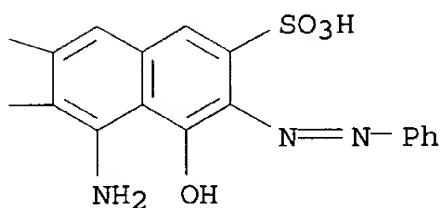
CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4-[5-[[2-hydroxy-4-[(4-methylphenyl)amino]phenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-6-(phenylazo)-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

HO<sub>3</sub>S

● 2 Na

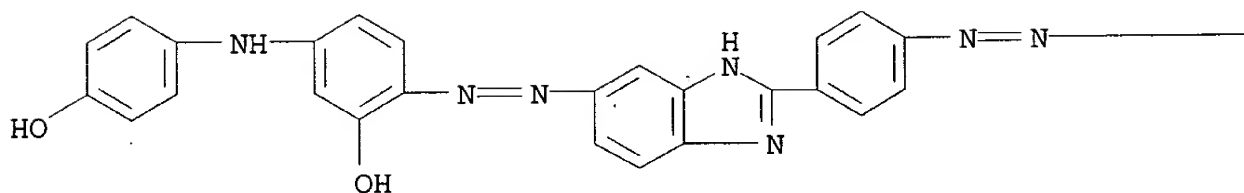
PAGE 1-B



RN 156487-46-6 HCA

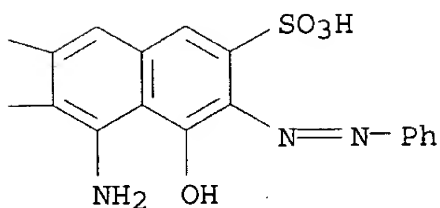
CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4-[5-[[2-hydroxy-4-[(4-hydroxyphenyl)amino]phenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-6-(phenylazo)-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

HO<sub>3</sub>S—

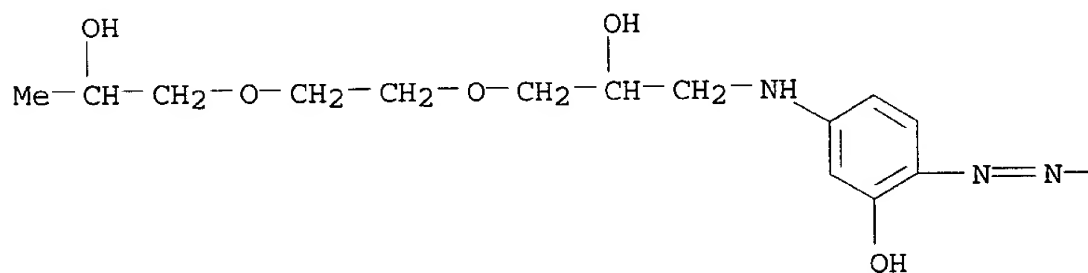
● 2 Na

PAGE 1-B



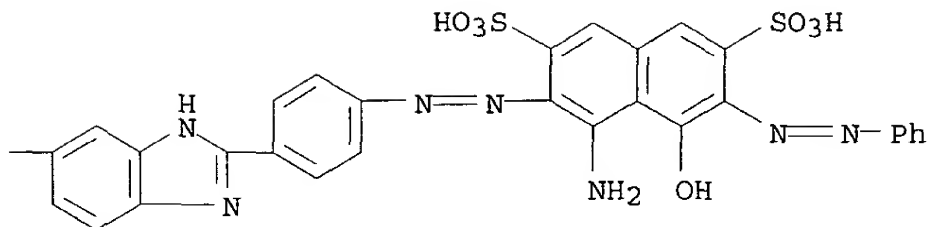
RN 156487-47-7 HCA  
 CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4-[5-[[2-hydroxy-4-[[2-hydroxy-3-[2-(2-hydroxypropoxy)ethoxy]propyl]amino]phenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-6-(phenylazo)-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



2 Na

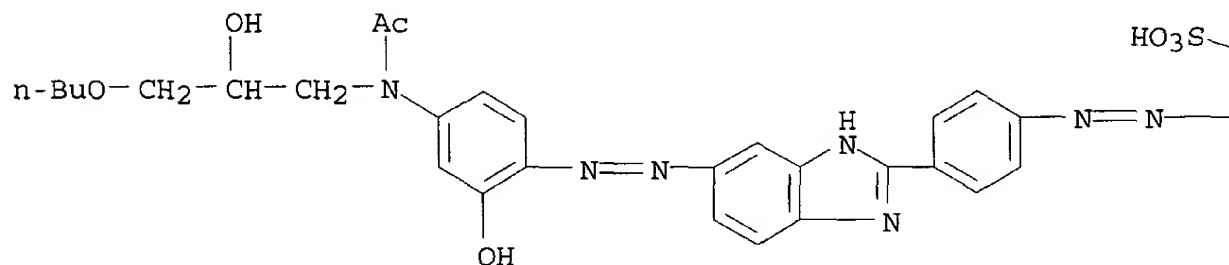
PAGE 1-B



RN 156487-48-8 HCA

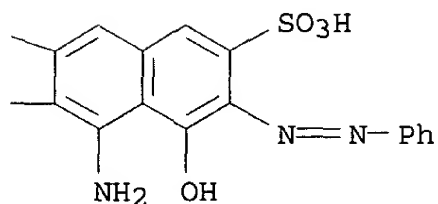
CN 2,7-Naphthalenedisulfonic acid, 3-[[[4-[5-[[4-[acetyl(3-butoxy-2-hydroxypropyl)amino]-2-hydroxyphenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-4-amino-5-hydroxy-6-(phenylazo)-, dilithium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Li

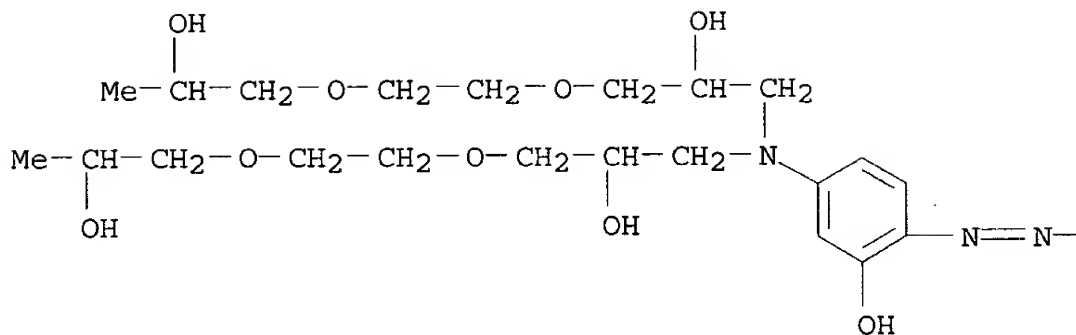
PAGE 1-B



RN 156487-49-9 HCA

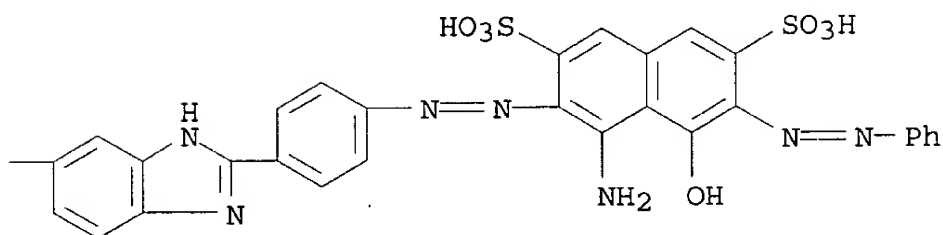
CN 2,7-Naphthalenedisulfonic acid, 4-amino-3-[[[4-[5-[[4-[bis[2-hydroxy-3-[2-(2-hydroxypropoxy)ethoxy]propyl]amino]-2-hydroxyphenyl]azo]-1H-benzimidazol-2-yl]phenyl]azo]-5-hydroxy-6-(phenylazo)-, disodium

PAGE 1-A



● 2 Na

PAGE 1-B



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IC      ICM      C09D011-00
        ICS      C09D011-02
ICA     C09B035-46; C09B067-44
CC      42-12 (Coatings, Inks, and Related Products)
ST      azo dye ink jet printing
IT      Dyes, azo
        (jet printing inks contg.,
        storage-stable)
IT      Inks
        (jet-printing, azo dye-contg.,
        storage-stable)
IT      156487-36-4 156487-37-5 156487-38-6
        156487-39-7 156487-40-0 156487-41-1
        156487-42-2 156487-44-4 156487-45-5
        156487-46-6 156487-47-7 156487-48-8
        156487-49-9
        (dyes, jet printing inks contg.,

```

storage-stable)

L44 ANSWER 18 OF 20 HCA COPYRIGHT 2003 ACS

115:185567 Water-thinned black inks for jet

**printers.** Inoue, Sadahiro; Tabayashi, Isao; Yamada, Yutaka; Ametani, Shinji (Dainippon Ink and Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 03100080 A2 19910425 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-237722 19890913.

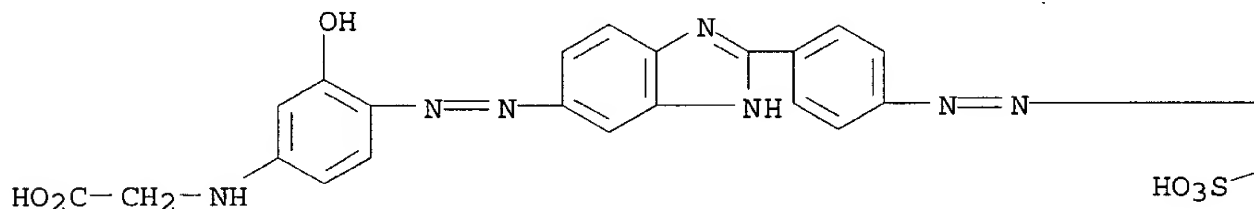
AB The title inks, anticlogging and storage-stable with good light resistance, contain mixts. of water-sol. dyes C.I. Food Black 1 and/or C.I. Food Black 2 (I) and C.I. Direct Black 168 (II) and/or C.I. Direct Black 171. An ink contg. I 0.7, II 2.8, **glycerol** 5.0, BuO(CH<sub>2</sub>CH<sub>2</sub>O)2H 4.5, phenoxyethanol 2.0, triethanolamine 0.5, Na dehydroacetate 0.1, and H<sub>2</sub>O 86.9% was stable during storage at 0.degree. and 50.degree., was delivered continuously without clogging for 200 h, and produced light-resistant images.

IT 135990-85-1, C.I. Direct Black 171  
(jet-printing inks contg., aq.,  
stable, anticlogging, light-resistant)

RN 135990-85-1 HCA

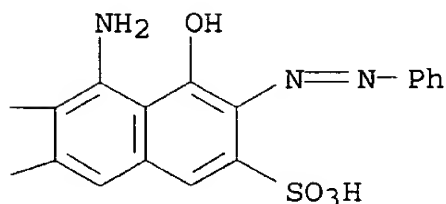
CN Glycine, N-[4-[[2-[4-[[1-amino-8-hydroxy-7-(phenylazo)-3,6-disulfo-2-naphthalenyl]azo]phenyl]-1H-benzimidazol-5-yl]azo]-3-hydroxyphenyl]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

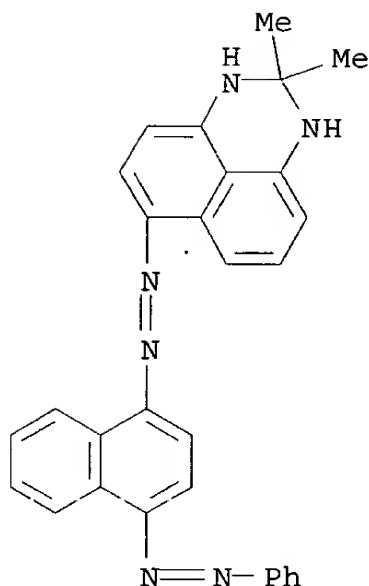


● 2 Na

PAGE 1-B



IC ICM C09D011-00  
ICS C09D011-02; C09D011-16  
CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 41  
ST **jet printing ink** black dye; stability  
**ink jet printing**; light resistance  
**ink jet printing**  
IT Dyes  
(black, **jet-printing inks** contg.,  
light-resistant)  
IT Light-resistant materials  
(**inks**, **jet-printing**, anticlogging,  
stable, aq., black dyes for)  
IT **Inks**  
(**jet-printing**, anticlogging, stable,  
light-resistant, aq., black dyes for)  
IT **Inks**  
(**jet-printing**, anticlogging, light-resistant,  
storage-stable, water-thinned, black dyes for)  
IT 2118-39-0, C.I. Food Black 2 2519-30-4, C.I. Food Black 1  
85631-88-5, C.I. Direct Black 168 135990-85-1, C.I. Direct  
Black 171  
(**jet-printing inks** contg., aq.,  
stable, anticlogging, light-resistant)  
  
L44 ANSWER 19 OF 20 HCA COPYRIGHT 2003 ACS  
111:136208 Recording liquids for **ink-jet**  
**printing** and writing. Takimoto, Hiroshi; Yoneyama, Tomio;  
Sano, Hideo (Mitsubishi Kasei Corp., Japan). Jpn. Kokai Tokkyo Koho  
JP 01011171 A2 19890113 Heisei, 4 pp. (Japanese). CODEN:  
JKXXAF. APPLICATION: JP 1987-165962 19870702.  
AB Fast-drying title liqs. comprise disperse dyes or oil-sol. dyes and  
N-(hydroxyalkyl)pyrrolidone or N-(hydroxyalkoxyalkyl)pyrrolidone.  
An aq. soln. contg. C.I. Disperse Red 4 3, N-  
(hydroxyethyl)pyrrolidone 50, BuO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>2</sub>H 20, **glycerin**  
7, and diacetone alc. 20% was filtered to give an ink which showed  
no pptn. during storage for 6 mo at -30 and +60.degree., did not  
clog the nozzle of a **jet printer** during 2 mo  
without printing, and gave fast-drying prints with good sharpness  
and light resistance.  
IT 4197-25-5, C.I. Solvent Black 3  
(**inks** contg., for **jet printing** and  
writing)  
RN 4197-25-5 HCA  
CN 1H-Perimidine, 2,3-dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-  
naphthalenyl]azo]- (9CI) (CA INDEX NAME)



IC ICM C09D011-00  
ICS C09D011-00  
CC 42-12 (Coatings, Inks, and Related Products)  
ST **j t printing ink** anticlogging; drying  
**jet printing ink**; writing ink rapid  
drying; hydroxyalkylpyrrolidone ink printing writing; disperse dye  
ink printing writing; oil soly disperse dye ink  
IT Dyes  
(disperse, **inks** contg., for **jet**  
**printing** and writing)  
IT **Inks**  
(**jet-printing**, anticlogging, rapid-drying,  
storage-stable, contg. dyes and hydroxyalkyl derivs. of  
pyrrolidone)  
IT Dyes  
(oil-sol., **inks** contg., for **jet**  
**printing** and writing)  
IT 128-85-8, C.I. Solvent Blue 11 1328-54-7, C.I. Solvent Blue 25  
2176-49-0, N-(Hydroxyethoxyethyl)pyrrolidone 2379-90-0, C.I.  
Disperse Red 4 2872-48-2, C.I. Disperse Red 11 3443-93-4, C.I.  
Disperse Blue 6 3445-11-2, N-(Hydroxyethyl)pyrrolidone  
4197-25-5, C.I. Solvent Black 3 4486-13-9, C.I. Disperse  
Blue 5 6300-37-4, C.I. Disperse Yellow 7 10343-55-2, C.I.  
Solvent Yellow 19 10380-30-0, C.I. Solvent Red 100 11099-03-9,  
C.I. Solvent Black 5 15791-78-3 42181-13-5, N-  
(Dihydroxypropyl)pyrrolidone 60650-24-0, C.I. Solvent Red 82  
122726-22-1, N-(Hydroxypropyl)pyrrolidone 122726-23-2,  
N-(Hydroxypropoxypropyl)pyrrolidone  
(**inks** contg., for **jet printing** and  
writing)

L44 ANSWER 20 OF 20 HCA COPYRIGHT 2003 ACS

105:228586 Aqueous **jet-printing ink**.

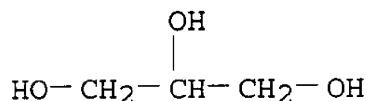
Shimada, Masaru; Kawanishi, Toshiyuki; Murakami, Kakuji; Aruga, Tamotsu; Uemura, Hiroyuki (Ricoh Co., Ltd., Japan). Ger. Offen. DE 3537726 A1 **19860424**, 24 pp. (German). CODEN: GWXXBX.  
APPLICATION: DE 1985-3537726 19851023. PRIORITY: JP 1984-221279 19841023.

AB Nonclogging aq. **jet-printing inks**, giving nonbleeding print with good sharpness and thickness, contain terephthalanilide deriv. disazo dyes, humectants, polyols, and mildewcides-preservatives. Thus, an ink contg. diazotized diaminoterephthalanilideH acid coupling product (1:2) 3, diethylene glycol 15, **glycerol** 5, Na dehydroacetate 0.1, and water 76.9% had viscosity 1.95 cP and did not clog a 30-.mu. **printing jet** in 1000 h continuous use or 1 mo intermittent use.

IT 56-81-5, uses and miscellaneous  
(humectants, for **jet-printing inks**)

RN 56-81-5 HCA

CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



IT 103823-49-0 103823-50-3 103823-51-4  
103823-52-5 103823-53-6

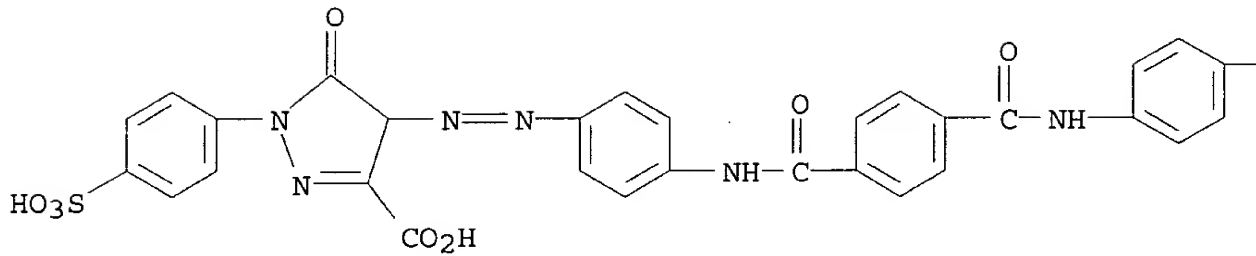
(inks contg., aq. **jet-printing**  
nonclogging)

RN 103823-49-0 HCA

CN 1H-Pyrazole-3-carboxylic acid, 4,4'-[1,4-phenylenebis(carbonylimino-4,1-phenyleneazo)]bis[4,5-dihydro-5-oxo-1-(4-sulfophenyl)-, tetrasodium salt (9CI) (CA INDEX NAME)

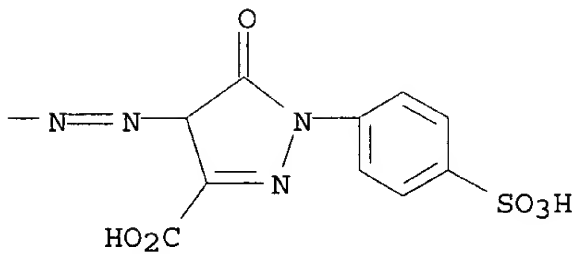


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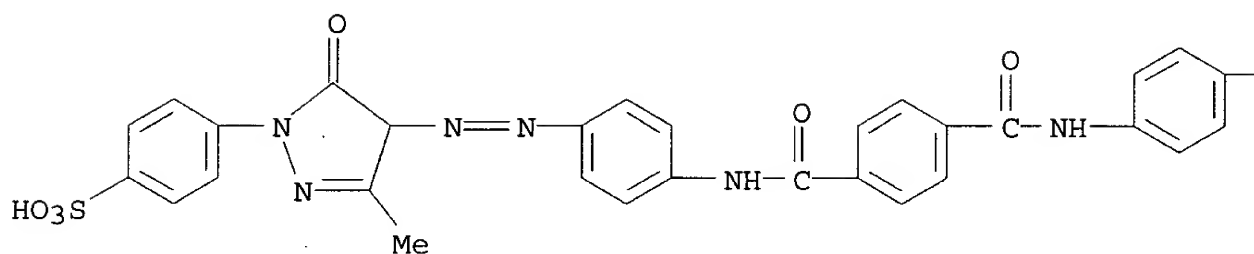
● 4 Na

PAGE 1-B



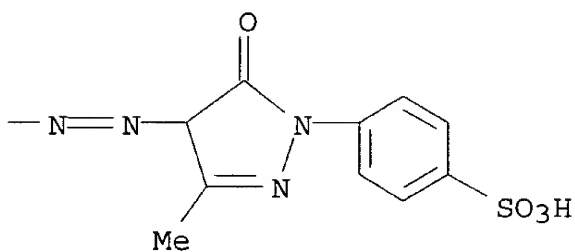
RN 103823-50-3 HCA  
 CN Benzenesulfonic acid, 4,4'-[1,4-phenylenebis(carbonylimino-4,1-phenyleneazo(4,5-dihydro-3-methyl-5-oxo-1H-pyrazole-4,1-diyl))bis-, disodium salt (9CI) (CA INDEX NAME)

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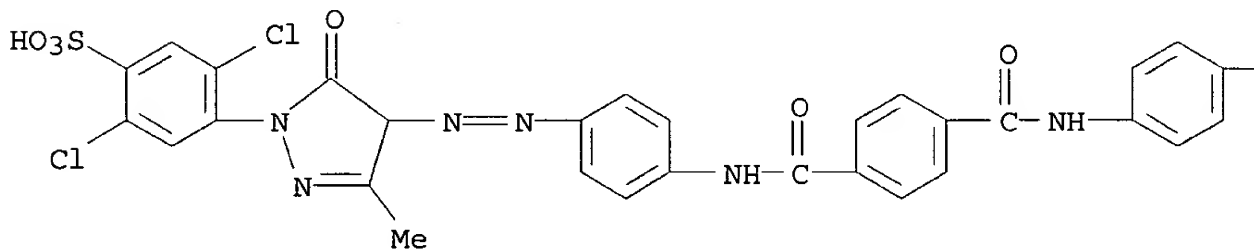
● 4 Na

PAGE 1-B



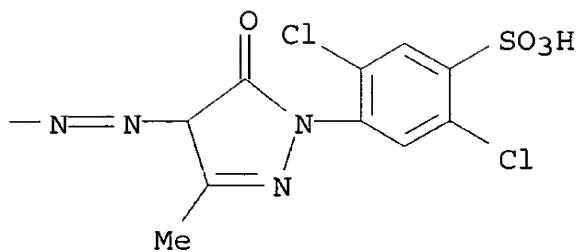
RN 103823-51-4 HCA  
 CN Benzenesulfonic acid, 4,4'-[1,4-phenylenebis(carbonylimino-4,1-phenyleneazo(4,5-dihydro-3-methyl-5-oxo-1H-pyrazole-4,1-diyl))]]bis[2,5-dichloro-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



2 Na

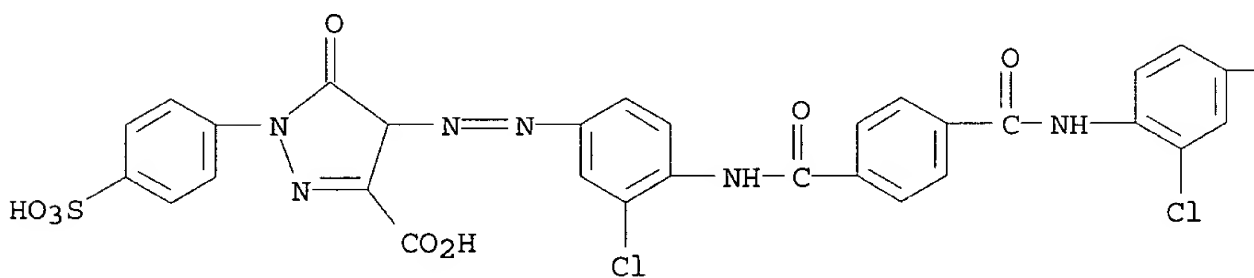
PAGE 1-B



RN 103823-52-5 HCA

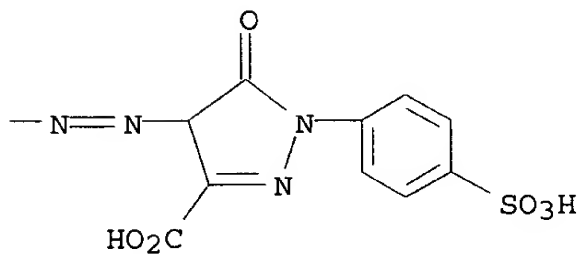
CN 1H-Pyrazole-3-carboxylic acid, 4,4'-[1,4-phenylenebis(carbonylimino(3-chloro-4,1-phenylene)azo)]bis[4,5-dihydro-5-oxo-1-(4-sulfophenyl)-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

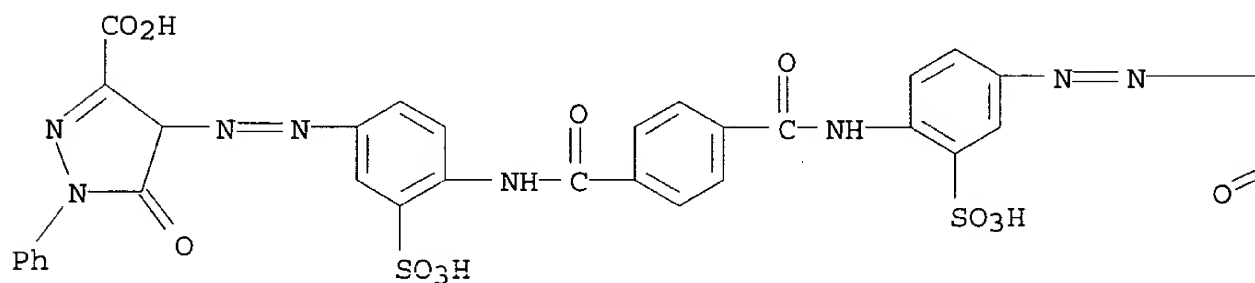
PAGE 1-B



RN 103823-53-6 HCA

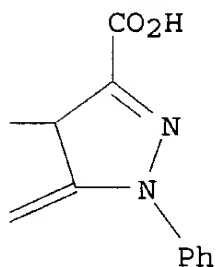
CN 1H-Pyrazole-3-carboxylic acid, 4,4'-[1,4-phenylenebis(carbonylimino(3-sulfo-4,1-phenylene)azo)]bis[4,5-dihydro-5-oxo-1-phenyl-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 4 Na

PAGE 1-B



IC ICM C09D011-16  
ICS C09B035-021; D21H001-46  
CC 42-2 (Coatings, Inks, and Related Products)  
ST **jet printing ink** clogging resistance;  
azo dye ink **jet printing**;  
terephthalanilide deriv dye ink; H acid azo dye ink; humectant  
ink **jet printing**; dehydroacetate  
mildewcide ink; dye disazo ink **jet  
printing**  
IT Humectants  
(ethers and polyols, for nonclogging **jet-  
printing inks**)  
IT Fungicides and Fungistats  
(for mildew control, for aq. **jet-printing  
inks**)  
IT Dyes, azo

(terephthalanilide derivs., for jet-printing inks)

IT Inks  
 (jet-printing, water-thinned, nonclogging, contg. disazo dyes, humectants and mildewcides)

IT 56-81-5, uses and miscellaneous 68-12-2, uses and miscellaneous 80-73-9 102-71-6, uses and miscellaneous 107-21-1, uses and miscellaneous 110-80-5 111-46-6, uses and miscellaneous 111-76-2 111-77-3 111-90-0 112-27-6 112-34-5 112-35-6 112-50-5 616-45-5 872-50-4, uses and miscellaneous 13693-59-9 25322-68-3 25322-69-4  
 (humectants, for jet-printing inks)

IT 103823-40-1 103823-41-2 103823-42-3 103823-43-4 103823-44-5  
 103823-45-6 103823-46-7 103823-47-8 103823-48-9  
 103823-49-0 103823-50-3 103823-51-4  
 103823-52-5 103823-53-6 103824-46-0  
 (inks contg., aq. jet-printing nonclogging)

IT 131-52-2 532-32-1 3811-73-2 4418-26-2  
 (mildewcide, for jet-printing inks)

=> d his 145-

FILE 'HCAPLUS' ENTERED AT 16:58:12 ON 26 JUN 2003

L45 70164 S YAMADA ?/AU  
 L46 22249 S FUJIWARA ?/AU  
 L47 399 S L45 AND L46  
 L48 8310 S YAMADA M?/AU  
 L49 4284 S FUJIWARA T?/AU  
 L50 8 S L48 AND L49  
 L51 1 S L50 AND L5  
 SEL L51 1 RN

FILE 'REGISTRY' ENTERED AT 17:00:31 ON 26 JUN 2003

L52 39 S E1-E39  
 L53 0 S L52 AND PMS/CI

FILE 'HCAPLUS' ENTERED AT 17:01:04 ON 26 JUN 2003

L54 5 S L47 AND L5  
 SEL L54 1-5 RN

FILE 'REGISTRY' ENTERED AT 17:01:14 ON 26 JUN 2003

L55 60 S E40-E99  
 L56 7 S L55 AND PMS/CI  
 L57 3 S L56 AND ?IMIDAZOL?/CNS  
 L58 4 S L56 NOT L57

FILE 'HCA' ENTERED AT 17:03:05 ON 26 JUN 2003

L59 680 S L57  
 L60 5 S L59 AND L4

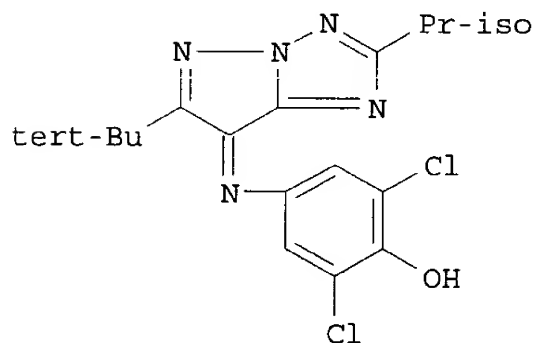
*(one last try at the imidazolyl polymer business)*

=> d 160 1-5 cbib abs hitstr hitind

L60 ANSWER 1 OF 5 HCA COPYRIGHT 2003 ACS

123:213303 Thermal transfer recording materials. Tateishi, Tomoyoshi  
(Fuji Photo Film Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07112586  
A2 19950502 Heisei, 15 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1993-262691 19931020.

GI



I

AB The thermal transfer dye-donating materials comprise supports coated with dye-donating layers contg. heat-transferable dissocg. dyes that can become anionic by transfer to dye-receiving layers to donate H atoms to the dye receptors, and cellulose deriv. binders. The materials provide high-d. images without blotting and good storage stability. Thus, thermal transfer recording was carried out by using a sheet with a dye-donating layer contg. I and Et cellulose and a receptor contg. AEA (dye receptor).

IT 25232-42-2

(thermal-transfer recording dye-receiving layer)

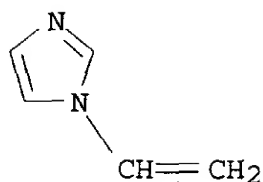
RN 25232-42-2 HCA

CN 1H-Imidazole, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1072-63-5

CMF C5 H6 N2

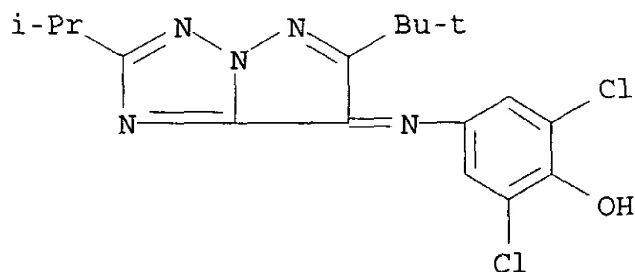


IT 163921-17-3 163921-26-4

(thermal-transfer recording material contg. dissocg. dye and cellulose deriv.)

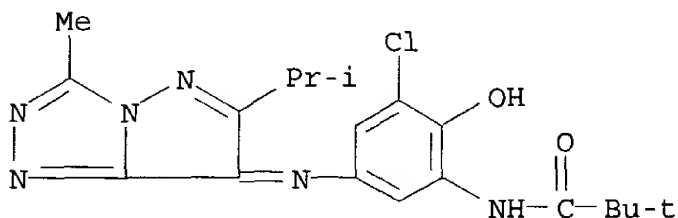
RN 163921-17-3 HCA

CN Phenol, 2,6-dichloro-4-[[6-(1,1-dimethylethyl)-2-(1-methylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]- (9CI) (CA INDEX NAME)



RN 163921-26-4 HCA

CN Propanamide, N-[3-chloro-2-hydroxy-5-[[3-methyl-6-(1-methylethyl)-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]amino]phenyl]-2,2-dimethyl- (9CI) (CA INDEX NAME)



IC ICM B41M005-38

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 25038-59-9, Vylon 280, uses 25232-42-2 101482-42-2  
(thermal-transfer recording dye-receiving layer)

IT 135274-81-6 163921-17-3 163921-20-8 163921-22-0  
163921-26-4

(thermal-transfer recording material contg. dissocg. dye and cellulose deriv.)

L60 ANSWER 2 OF 5 HCA COPYRIGHT 2003 ACS

123:156486 Thermal-transfer coloring materials and its recording materials. Tateishi, Tomoyoshi; Usui, Hideo (Fuji Photo Film Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07061145 A2 19950307 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-209668 19930824.

AB The thermal-transfer coloring materials have a colorant-transfer layer comprising a dissociative colorant which may be anion by giving H to the compd. in the colorant-receptor layer and polyvinylbutyral as a binder. The recording materials consist of the thermal-transfer coloring materials and image-receiving materials contg. .gtoreq.1 colorant-receiving compd. which may be cation by receiving H from the thermal-transfer colorant.

IT 25232-42-2 163921-17-3 163921-26-4

(thermal-transfer recording materials contg. thermal-transfer colorant)

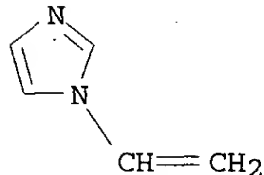
RN 25232-42-2 HCA

CN 1H-Imidazole, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

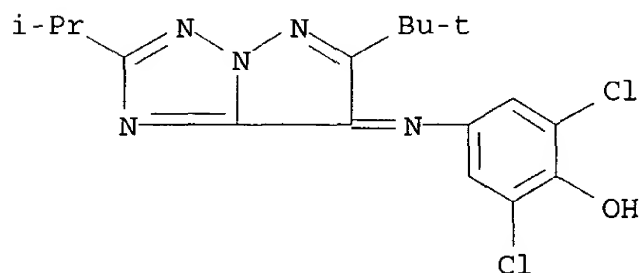
CRN 1072-63-5

CMF C5 H6 N2



RN 163921-17-3 HCA

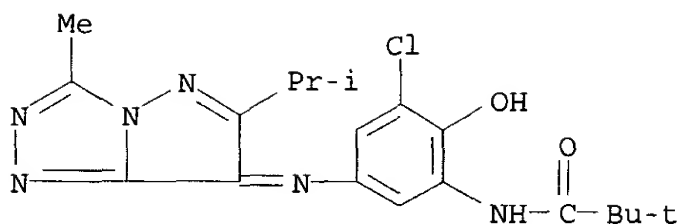
CN Phenol, 2,6-dichloro-4-[[6-(1,1-dimethylethyl)-2-(1-methylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]- (9CI) (CA INDEX NAME)



RN 163921-26-4 HCA

CN Propanamide, N-[3-chloro-2-hydroxy-5-[[3-methyl-6-(1-methylethyl)-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]amino]phenyl]-2,2-dimethyl- (9CI) (CA INDEX NAME)





IC ICM B41M005-30  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 IT 111-41-1, A-EA 25038-59-9, Vylon 280, uses **25232-42-2**  
 101482-42-2 **163921-17-3** 163921-20-8 163921-21-9  
 163921-22-0 **163921-26-4**  
 (thermal-transfer recording materials contg. thermal-transfer colorant)

L60 ANSWER 3 OF 5 HCA COPYRIGHT 2003 ACS

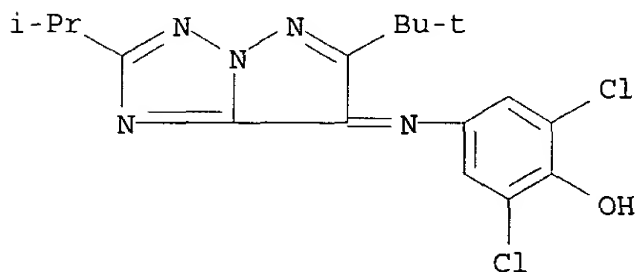
123:22248 Thermal-transfer recording materials with transferred-image stability. Tateishi, Tomoyoshi; Kamio, Takayoshi (Fuji Photo Film Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07061147 A2 19950307 Heisei, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-210662 19930825.

AB The title materials contain thermal-transferable dyes capable of giving H to dye-receiving materials which include N-vinylimidazole deriv. polymers and gelatins.

IT **163921-17-3 163921-18-4 163921-26-4**  
 (thermal-transferable dyes)

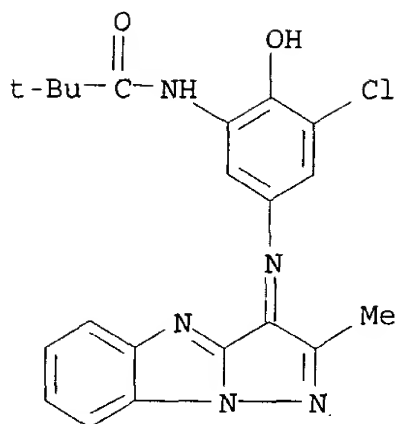
RN 163921-17-3 HCA

CN Phenol, 2,6-dichloro-4-[[6-(1,1-dimethylethyl)-2-(1-methylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]amino]- (9CI) (CA INDEX NAME)



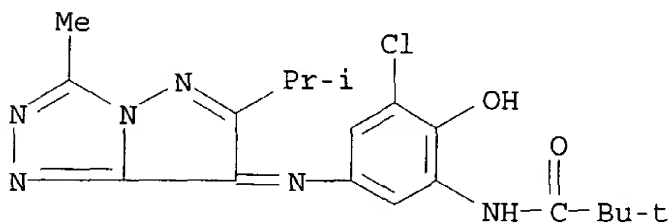
RN 163921-18-4 HCA

CN Propanamide, N-[3-chloro-2-hydroxy-5-[(2-methyl-3H-pyrazolo[1,5-a]benzimidazol-3-ylidene)amino]phenyl]-2,2-dimethyl- (9CI) (CA INDEX NAME)



RN 163921-26-4 HCA

CN Propanamide, N-[3-chloro-2-hydroxy-5-[[3-methyl-6-(1-methylethyl)-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]amino]phenyl]-2,2-dimethyl-(9CI) (CA INDEX NAME)



IT 25232-42-2

(vinyl polymers of dye-receiving layer)

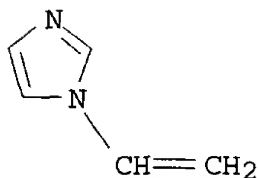
RN 25232-42-2 HCA

CN 1H-Imidazole, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1072-63-5

CMF C5 H6 N2



IC ICM B41M005-38

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

## Section cross-reference(s): 41

- IT 135274-81-6 137999-79-2 163921-16-2 163921-17-3  
 163921-18-4 163921-19-5 163921-20-8 163921-21-9  
 163921-22-0 163921-23-1 163921-24-2 163921-25-3  
 163921-26-4 163921-27-5 163967-17-7  
 (thermal-transferable dyes)
- IT 25232-42-2 103437-05-4 159105-83-6 163921-06-0  
 163921-07-1 163921-10-6 163921-12-8 163921-14-0 163921-15-1  
 (vinyl polymers of dye-receiving layer)

L60 ANSWER 4 OF 5 HCA COPYRIGHT 2003 ACS

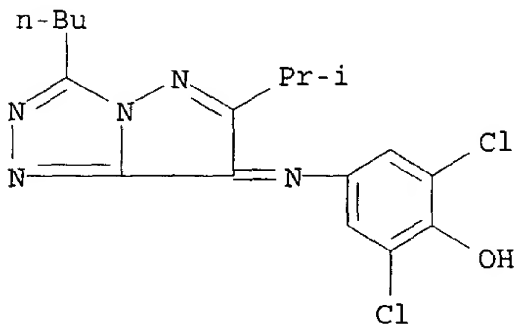
119:37646 Fabrication of color filter array for liquid crystal display.  
 Komamura, Tawara; Miura, Akio (Konishiroku Photo Ind, Japan). Jpn.  
 Kokai Tokkyo Koho JP 05027113 A2 19930205 Heisei, 8 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1991-184682 19910724.

AB A process for making the title color filter array comprises the  
 steps of heating the dye-contg. layer on a thermal transfer sheet  
 and the mordant-contg. image receiver layer on a transparent support  
 pressed against each other, thereby forming repeated mosaic pixel  
 patterns by the reaction of the dyes and the mordants.

- IT 147919-84-4 147919-88-8 147919-89-9  
 147919-90-2  
 (liq. crystal display color filter array from, manuf. of, by  
 thermal transfer)

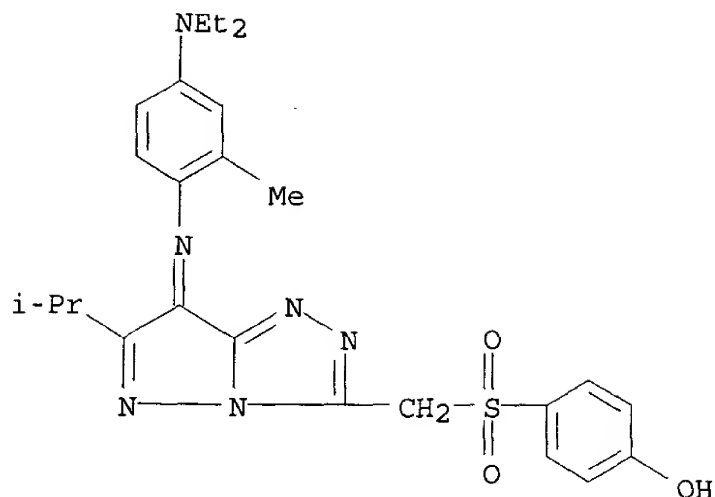
RN 147919-84-4 HCA

CN Phenol, 4-[[[3-butyl-6-(1-methylethyl)-7H-pyrazolo[5,1-c]-1,2,4-  
 triazol-7-ylidene]amino]-2,6-dichloro- (9CI) (CA INDEX NAME)



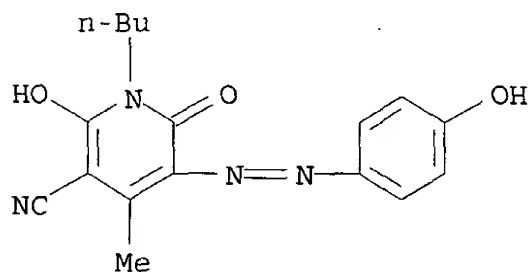
RN 147919-88-8 HCA

CN Phenol, 4-[[[7-[[[4-(diethylamino)-2-methylphenyl]imino]-6-(1-  
 methylethyl)-7H-pyrazolo[5,1-c]-1,2,4-triazol-3-yl]methyl]sulfonyl]-  
 (9CI) (CA INDEX NAME)



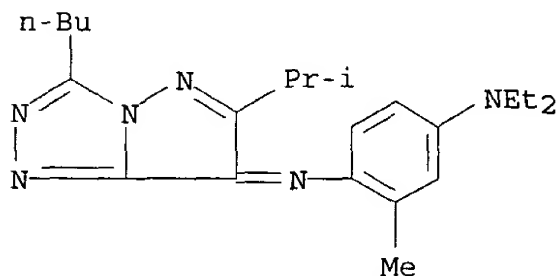
RN 147919-89-9 HCA

CN 3-Pyridinecarbonitrile, 1-butyl-1,6-dihydro-2-hydroxy-5-[(4-hydroxyphenyl)azo]-4-methyl-6-oxo- (9CI) (CA INDEX NAME)



RN 147919-90-2 HCA

CN 1,4-Benzenediamine, N1-[3-butyl-6-(1-methylethyl)-7H-pyrazolo[5,1-c]-1,2,4-triazol-7-ylidene]-N4,N4-diethyl-2-methyl- (9CI) (CA INDEX NAME)



IT 25232-42-2

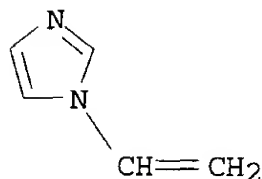
(mordant, manuf. of liq. crystal display color filter using)

RN 25232-42-2 HCA  
CN 1H-Imidazole, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1072-63-5

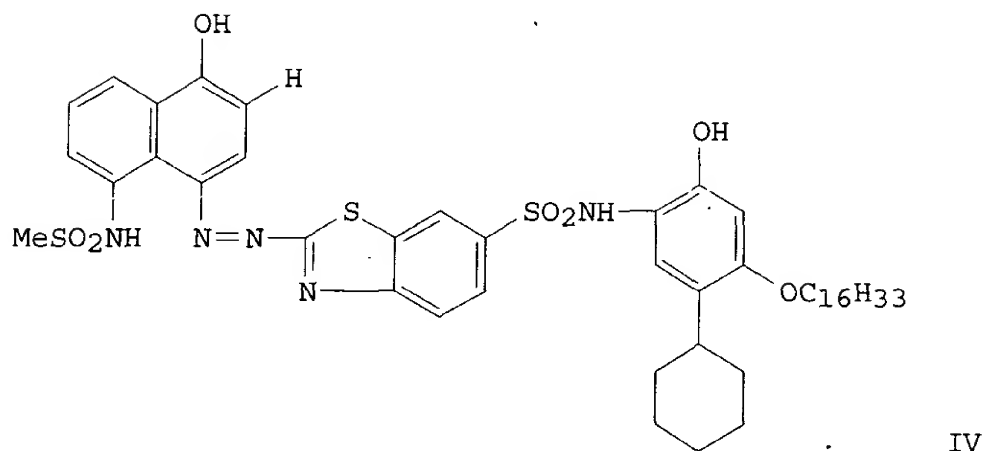
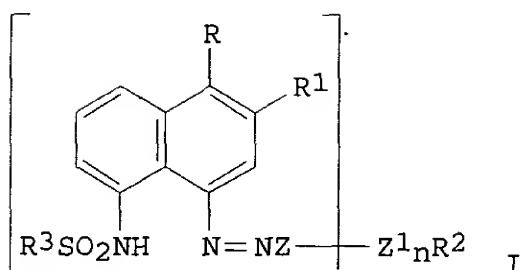
CMF C5 H6 N2



IC ICM G02B005-20  
ICS B41M005-38; G02F001-1335  
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 73  
IT 71812-03-8 137999-80-5 **147919-84-4** 147919-85-5  
147919-86-6 147919-87-7 **147919-88-8** **147919-89-9**  
**147919-90-2** 148424-23-1  
(liq. crystal display color filter array from, manuf. of, by  
thermal transfer)  
IT 1116-76-3, Trioctylamine 25232-41-1 **25232-42-2**  
30551-89-4 30606-45-2 105035-67-4  
(mordant, manuf. of liq. crystal display color filter using)

L60 ANSWER 5 OF 5 HCA COPYRIGHT 2003 ACS  
102:140682 Color photographic material. Ono, Shigetoshi; Furusawa,  
Genichi (Fuji Photo Film Co., Ltd., Japan). Ger. Offen. DE 3408500  
A1 19840913, 68 pp. (German). CODEN: GWXXBX. APPLICATION: DE  
1984-3408500 19840308. PRIORITY: JP 1983-37903 19830308.

GI



IV

AB Light-stable color photog. images are formed by using an azo dye compd. of the general formula I (R = OH, an oxy salt, or OH precursor; R1 = H, sulfo, CN, fluorosulfonyl, halogen, SO3Ph, SO3Ph deriv., CO2H, SOR4 where R4 = alkyl, SO2R5 where R5 = alkyl, aralkyl, Ph, Ph deriv., COR5, SO2NR6R7 where R6 and R7 = H, alkyl, aralkyl, Ph, Ph deriv., and CONR6R7; R2 = a releasing group; R3 = alkyl, aralkyl, Ph, Ph deriv., amino, and a 5- or 6-membered heterocycle; Z = arom. hydrocarbon or a 5- or 6-membered heterocycle; Z1 = any connecting compd.) which forms very stable metal chelates. Thus, 2-(4-hydroxy-8-methasulonamidonaphthylazo)-6-sulfobenzothiazole (II) was prepd. by using the diazonium salt reaction of 2-amino-6-sulfobenzothiazole with 5-methanesulfonamido-1-naphthol. 6-Chlorosulfonyl-2-(4-hydroxy-8-methanesulfonamidonaphthylazo)benzothiazole (III) was prepd. by reaction of II with sulfolan, phosphoryl chloride, and DMA. IV was prepd. by reacting III with 2-amino-4-cyclohexyl-5-hexadecyloxyphenol hydrochloride. A color-image layer contg. gelatin, Ni acetate, polyvinylimidazole, and IV was exposed through a step wedge and developed to give a highly light-fast image.

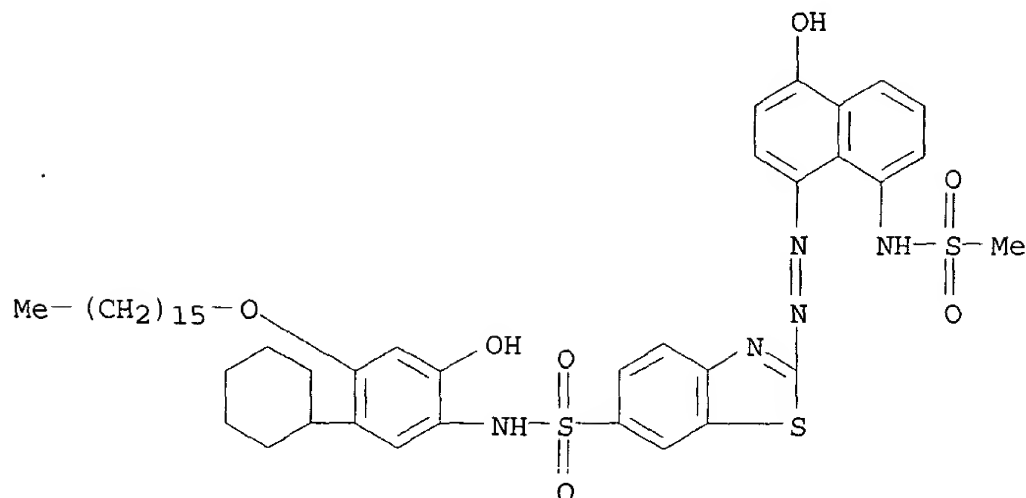
IT 95523-64-1 95523-70-9 95523-71-0

(color photog. azo dye metal chelating agent)

RN 95523-64-1 HCA

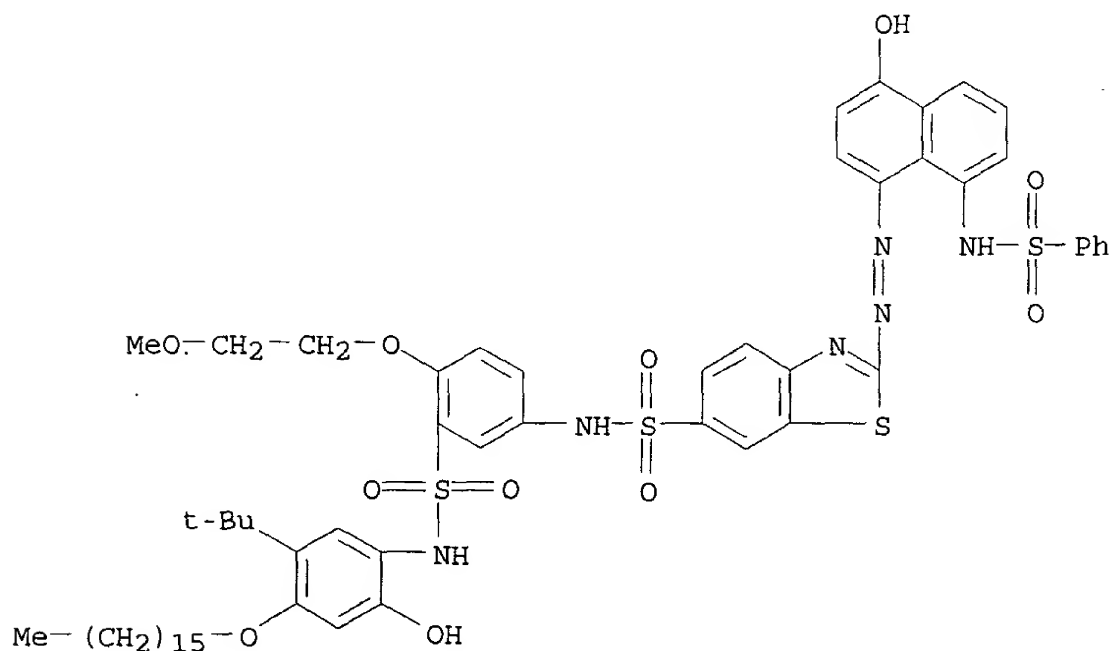
CN 6-Benzothiazolesulfonamide, N-[5-cyclohexyl-4-(hexadecyloxy)-2-hydroxyphenyl]-2-[[4-hydroxy-8-[(methylsulfonyl)amino]-1-

naphthalenyl]azo] - (9CI) (CA INDEX NAME)



RN 95523-70-9 HCA

CN 6-Benzothiazolesulfonamide, N-[3-[[[5-(1,1-dimethylethyl)-4-(hexadecyloxy)-2-hydroxyphenyl]amino]sulfonyl]-4-(2-methoxyethoxy)phenyl]-2-[[4-hydroxy-8-[(phenylsulfonyl)amino]-1-naphthalenyl]azo] - (9CI) (CA INDEX NAME)

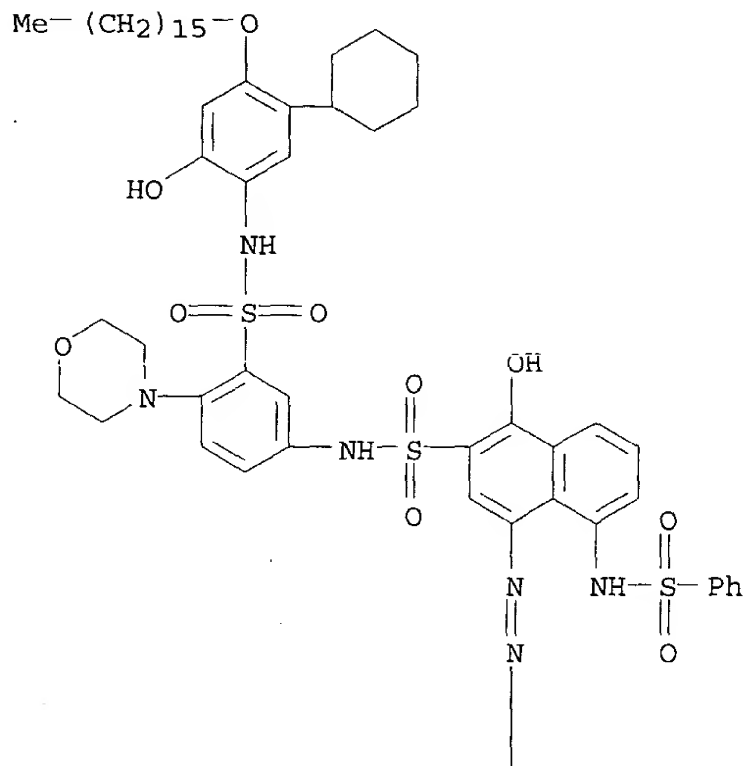


RN 95523-71-0 HCA

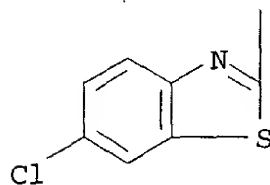
CN 2-Naphthalenesulfonamide, 4-[(6-chloro-2-benzothiazolyl)azo]-N-[3-[[[5-cyclohexyl-4-(hexadecyloxy)-2-hydroxyphenyl]amino]sulfonyl]-4-[(6-chloro-2-benzothiazolyl)azo]-N-[3-[[[5-cyclohexyl-4-(hexadecyloxy)-2-hydroxyphenyl]amino]sulfonyl]-4-[(6-chloro-2-benzothiazolyl)azo] - (9CI) (CA INDEX NAME)

(4-morpholinyl)phenyl]-1-hydroxy-5-[(phenylsulfonyl)amino] - (9CI)  
(CA INDEX NAME)

PAGE 1-A



PAGE 2-A

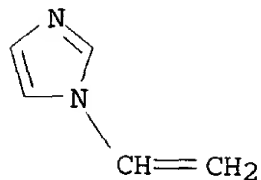


IT 25232-42-2  
(color photog. with azo dye complexation of metals in presence  
of)  
RN 25232-42-2 HCA  
CN 1H-Imidazole, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1



CRN 1072-63-5  
CMF C5 H6 N2

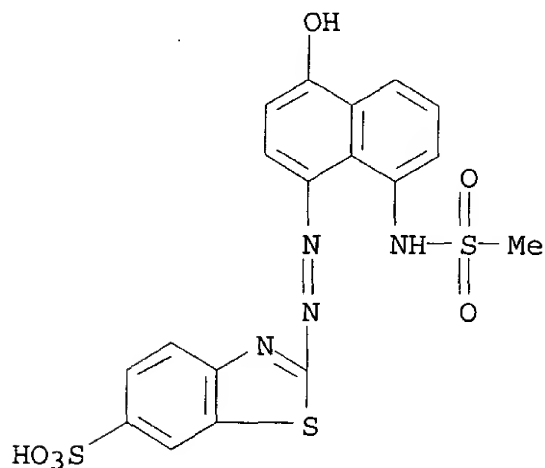


IT 95523-65-2P

(prepn. and chlorination of)

RN 95523-65-2 HCA

CN 6-Benzothiazolesulfonic acid, 2-[[4-hydroxy-8-  
[(methylsulfonyl)amino]-1-naphthalenyl]azo] - (9CI) (CA INDEX NAME)



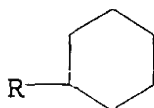
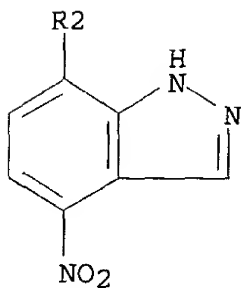
IT 95523-67-4P

(prepn. and color photog. applications of)

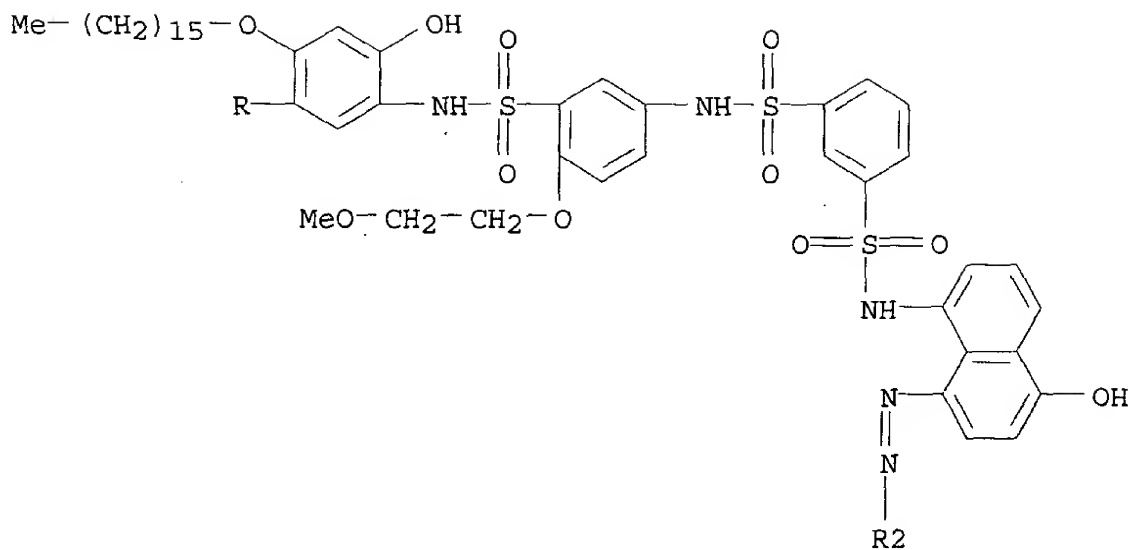
RN 95523-67-4 HCA

CN 1,3-Benzenedisulfonamide, N-[3-[[[5-cyclohexyl-4-(hexadecyloxy)-2-hydroxyphenyl]amino]sulfonyl]-4-(2-methoxyethoxy)phenyl]-N'-[5-hydroxy-8-[(4-nitro-1H-indazol-7-yl)azo]-1-naphthalenyl] - (9CI) (CA INDEX NAME)

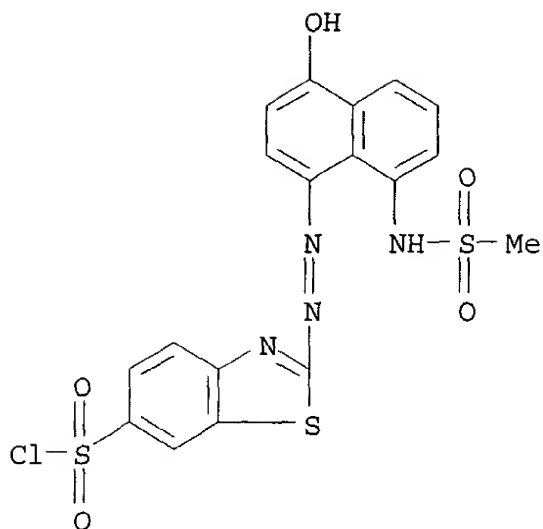
PAGE 1-A



PAGE 2-A



IT 95523-66-3P  
 (prepn. and reaction of, with aminocyclohexylhexadecyloxyphenol  
 hydrochloride)  
 RN 95523-66-3 HCA  
 CN 6-Benzothiazolesulfonyl chloride, 2-[[4-hydroxy-8-  
 [(methylsulfonyl)amino]-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)

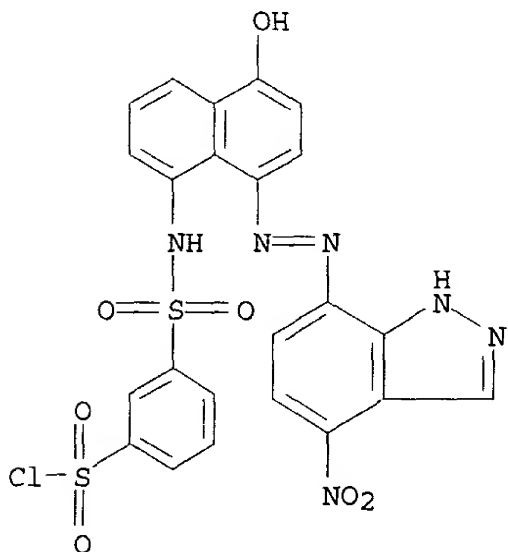


IT 95523-68-5

(reaction of, with [amino(methoxyethoxy)benzenesulfonamido]cyclohexylhexadecyloxyphenol)

RN 95523-68-5 HCA

CN Benzenesulfonyl chloride, 3-[[[5-hydroxy-8-[(4-nitro-1H-indazol-7-yl)azo]-1-naphthalenyl]amino]sulfonyl]- (9CI) (CA INDEX NAME)



IC G03C005-54

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 41

IT 95523-64-1 95523-70-9 95523-71-0

- (color photog. azo dye metal chelating agent)
- IT 25232-42-2  
(color photog. with azo dye complexation of metals in presence of)
- IT 95523-65-2P  
(prepn. and chlorination of)
- IT 95523-67-4P 95523-69-6P  
(prepn. and color photog. applications of)
- IT 95523-66-3P  
(prepn. and reaction of, with aminocyclohexylhexadecyloxyphenol hydrochloride)
- IT 95523-68-5  
(reaction of, with [amino(methoxyethoxy)benzenesulfonamido]cyclohexylhexadecyloxyphenol)